P.S

THE PREVENTIVE MAINTENANCE MONTHLY

DECEMBER THRU JULY 1952 ★★★★★ NUMBER 7

THIS MORNING ALL THE BEDS WERE EMPTY . . .

Where were all the people?
Out doing things, of course.
Maybe watching the sunrise.
Maybe fishing.
Or writing love letters.
Maybe a lot of them were even oiling
and adjusting their equipment.
(Between lulls.)
But a lot of the people, like yourself,
are sitting around reading PS Magazine.
There's no maybe about that!
They're reading PS in the foxholes
as well as in the shops,
on tank turrets and howitzer trails,
and under the shadow of a wing
as well as by the light of a desk lamp.
It's because they all woke up this morning
and found out that PS is now informing all of the people
some of the time
instead of some of the people
all of the time.
PS is now fuller of facts for fixers.
Guns for gunners, rifles for riflemen,
aircraft for airmen, and even optics for opticians.
All in addition to the solid mass
of automotives being flung your way these last six moons.
What manner of words are these, you ask. Can this be
our humble PS blowing its own big fat horn.
Of course PS is blowing its big fat horn.
But all the blowing's about you.
You, my fran, **are** PS!
All these great and wonderful things PS is full of,
are the letters you've written,
the problems you've handed Half-Mast, and the solid
facts from the hundreds of you that have dropped by
at Aberdeen to spill stories all over the place.
Keep 'em coming.
Until all the people are well informed all of the time.

THEM DURN CANNIBALS AGAIN

Dear Editor,

To those in charge of motor vehicles, July PS contained many hints of value. Joe Dope's "How to Start a Stalled Engine" was especially valuable, and me being the guy in charge of four jeeps and a ¾-ton truck, I have my drivers follow it step by step.

Your "Guest Editorial" passed off too lightly the "affinity between stray soldiers and parked Jeeps." It is sad but true that one out of ten (?) units over here cover up their poor PM practices by stealing, then altering or cannibalizing vehicles from other units. The closer a unit is to being combat, the less it bothers with self-justification, and considers the filthy practice normal.

The net result of this procedure comes out backward and upside down. The efficient unit loses a vehicle, the inefficient escapes penalty, and the wrong men get promoted. An identifiable whole vehicle is lost because its skeleton is buried and its major assemblies stacked for spares. Carrying it further, the chain of events that should bring a vehicle to the rebuild shop has been twisted. An honest combat loss cannot be replaced, the combat unit is penalized, and the whole blasted Alice-in-Wonderland deal starts all over.

Yours for a more honest, and therefore better, army world, with penalties for the unfaithful.

MSgt E. Donlon
Chorwon, Korea

DECEMBER 1951
thru JULY 1952

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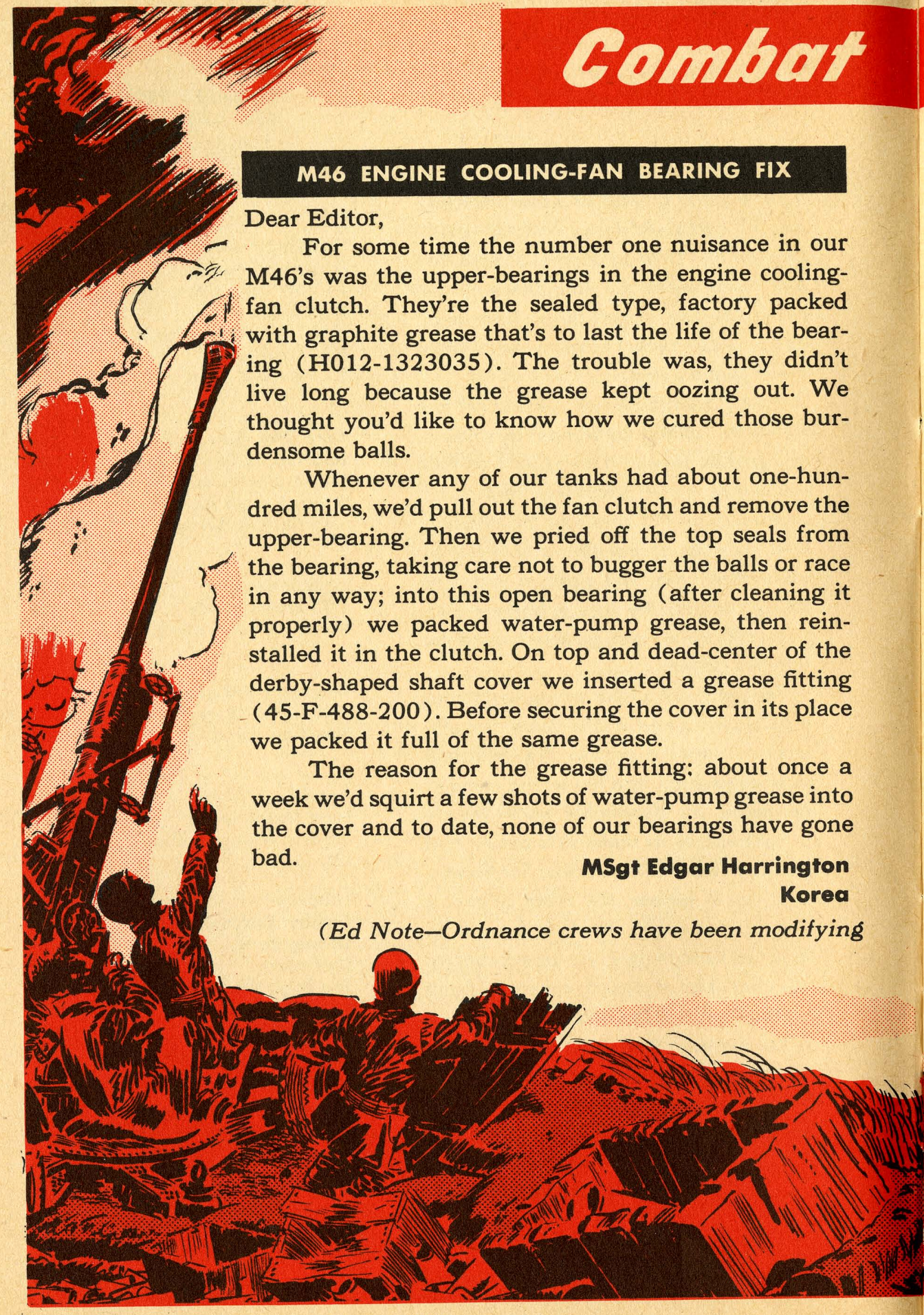


M46 ENGINE COOLING-FAN BEARING FIX

Dear Editor,

For some time the number one nuisance in our M46's was the upper-bearings in the engine cooling-fan clutch. They're the sealed type, factory packed with graphite grease that's to last the life of the bearing (H012-1323035). The trouble was, they didn't live long because the grease kept oozing out. We thought you'd like to know how we cured those burdensome balls.

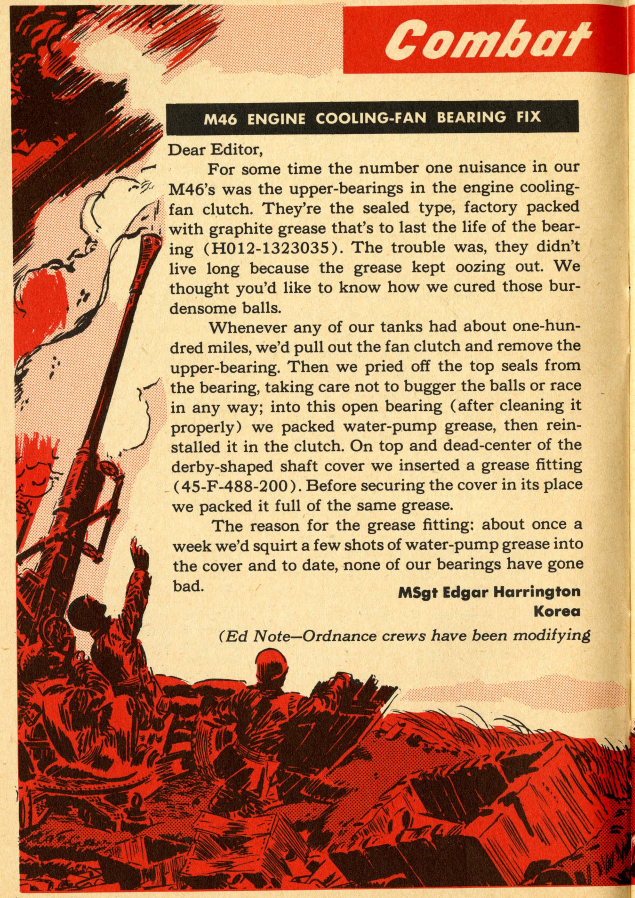
Whenever any of our tanks had about one-hundred miles, we'd pull out the fan clutch and remove the upper-bearing. Then we pried off the top seals from the bearing, taking care not to bugger the balls or race in any way; into this open bearing (after cleaning it properly) we packed water-pump grease, then reinstalled it in the clutch. On top and dead-center of the derby-shaped shaft cover we inserted a grease fitting (45-F-488-200). Before securing the cover in its place we packed it full of the same grease.

The reason for the grease fitting: about once a week we'd squirt a few shots of water-pump grease into the cover and to date, none of our bearings have gone bad.

MSgt Edgar Harrington
Korea

(Ed Note—Ordnance crews have been modifying

Combat Maintenance Stories



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(Ed Note—Ordnance crews have been modifying these clutch assemblies. Make sure yours hasn't been worked on before you try this fix.)

GET RID OF THE PROJECTILE

Dear Editor,

Along in November the field artillery 105 Howitzer outfit firing for the 17th Infantry was making a push up toward the Yalu river. We didn't have the opportunity to fire out completely before we had to change position. We had the weapon brought into the shop. When the gun was fired, the projectile started through the tube but got only half-way and stopped dead in its track. The gun didn't explode, but the forward part of the tube blew off, split the breech end, jammed the breech block so it couldn't be opened or the strip case removed. Luckily the projectile didn't explode.

Another time it was sub-zero weather in Korea. We'd been firing a 50 minute mission on the 155 Howitzer. The breech block had been repaired and replaced in the gun. The gun was hot. We attempted to remove the cold projectile but couldn't do it. We left it there until six hours later when we had another mission. We fired it—the gun went to pieces. The moral seems to be:

Get permission from the captain of the gun crew and get rid of the projectile. If you can't get it out the back end of the gun, fire it out the front end—in the direction of the enemy.

MSgt Greffen D. Flynt
APO 7 San Francisco, Cal.

HERE'S MUD IN YOUR BRAKES

Dear Editor,

What sand is to the desert, mud is to Korea. It's all over the place—you can't get away from it. We were having trouble with the air brakes on the 155-Howitzer. First they wouldn't take hold—then when they did take hold they'd grab and have a tendency to swing from one side to the other. They weren't releasing properly. We

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found that the trouble was caused by the air filters being clogged with mud. They had to be cleaned often—and replaced every six months.

The hand brakes, too, had a tendency to stick—and for the same reason—mud. If we moved the gun even a quarter of a mile, there would be great gobs of it clinging to the wheels. The only thing we could do was to keep cleaning them—clean them every time we made a move. And then we had brakes!

SFC Godsey
Korea

SOFT BEDS FOR TRAIL SPADES

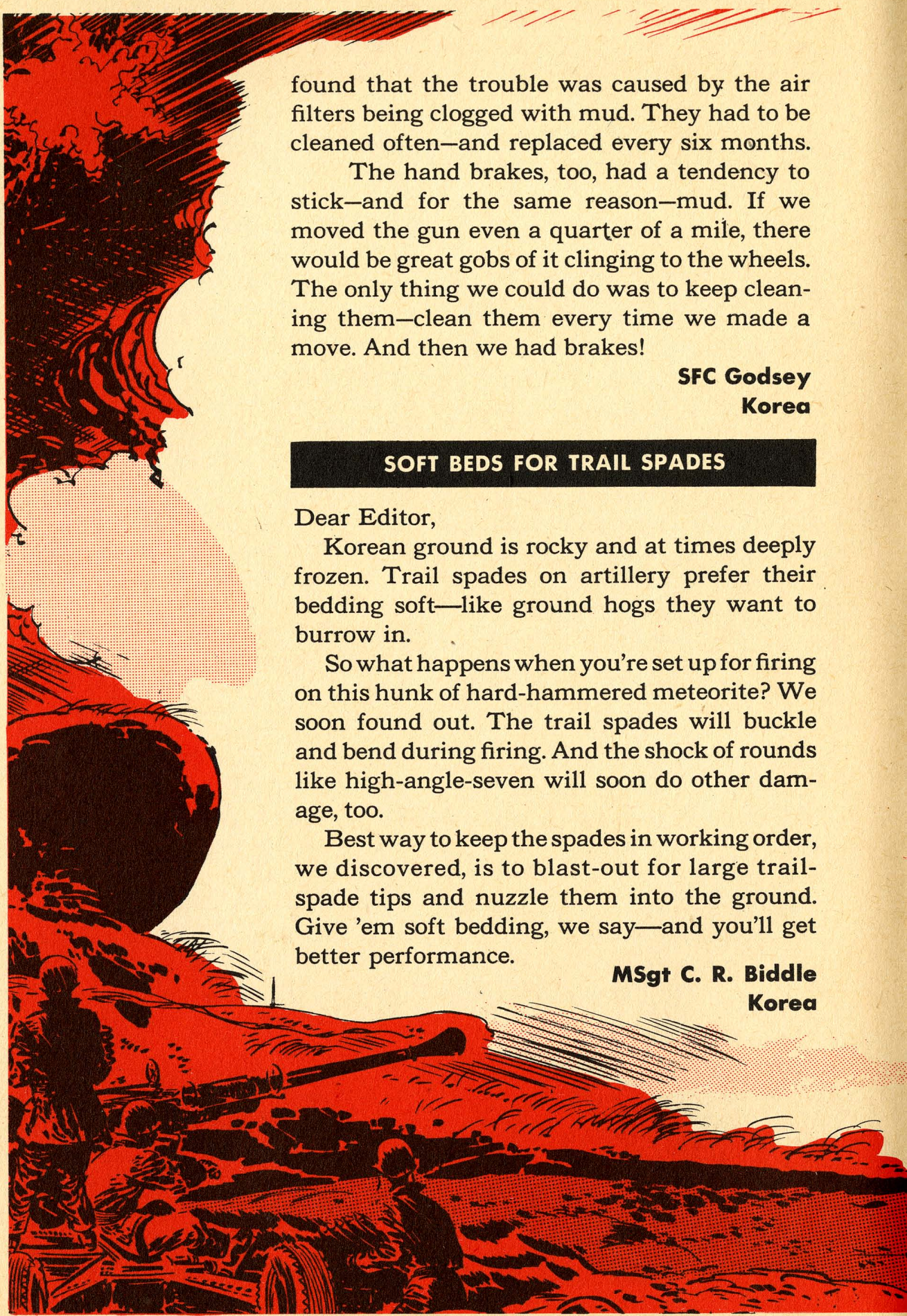
Dear Editor,

Korean ground is rocky and at times deeply frozen. Trail spades on artillery prefer their bedding soft—like ground hogs they want to burrow in.

So what happens when you're set up for firing on this hunk of hard-hammered meteorite? We soon found out. The trail spades will buckle and bend during firing. And the shock of rounds like high-angle-seven will soon do other damage, too.

Best way to keep the spades in working order, we discovered, is to blast-out for large trail-spade tips and nuzzle them into the ground. Give 'em soft bedding, we say—and you'll get better performance.

MSgt C. R. Biddle
Korea



Nobody's ignoring the fact that PS Magazine was out of circulation for a few months.

Listed below is a batch of tips on articles to be covered in the monthly issues of PS which you'll be getting again. They're based on letters from readers—during the time PS sat around on its back cover waiting for a printing contract—new engineering changes, maintenance difficulties, Half-Mast's two-bits, and everything else that puts snares in your job.

If your immediate needs require more complete data on any subject mentioned here, fill out the coupon on page 309 and do your screaming to Editor, PS Magazine, Aberdeen Proving Ground, Maryland, and you'll get the whole story by return mail.

MAIL ORDERS TAKEN HERE

0126 To clear flooded cylinders, bridge coil-to-plug and break points.

0003 Soldered brake-lines will get you home, but need replacing on arrival.

0011 Protect stored chrome with AXS-673; chrome in use with 52-6-3099 (3-182).

0012 Differential oil will behave better in your 2½-ton GMC's if 1″ below fill hole.

0017 Whatever your experience with the numbers game, you'll get the right part if you use its right name.

0020 Cargo beds will last longer if you dump drums easy, or roll 'em up a ramp.

0039 Throttle links stay in their cross-shaft sockets when adjusted with throttle to floor, and carburetor-throttle wide open.

0022 M34 2½-tonners below Manufacturer's Serial Number 90475 can be pushed backward only by removing a propeller shaft —after 90475, only when transmission's in reverse.

0029 Oil discolored grey by emulsified condensate is still a good lubricant.

0033 Lift 12-volt batteries by the case, not the terminals, to avoid cell damage.

0037 The in-line resistor in the 24-volt circuit permits use of available 12-volt coils.

0040 The ⅛″ hole in the M38 jeep wheel is to tell it from civilian jeep wheel—you worried?

0041 Have M38 jeep starter contact-plungers adjusted with 1-9/16″ clearance between adjusting sleeve and flange. This needs a special tool.

0045 Leaky Cuno-filters won't —given extra care; clean at 2000 or 3000 miles, make sure cup face is smooth, change gasket or turn it over.

0046 Moving the M38 jeep's fuel line away from the clutch-pedal clevis will save wear and nibbles.

0050 Both 12-volt and 24-volt battery terminals can be insulated with scrap inner-tube.

0051 Time pieces are important to fire-control, and just wearing a watch won't keep it ticking.

0062 Innocently reversing the polarity of electrical systems will ruin the batteries if not detected in time.

0066 More frequent cleaning of fuel-tank strainers prevents fouled pumps and carburetors; drilling holes in strainers won't.

0078 M37 ¾-tons must be stopped completely before making transfer-case high or low shift.

0080 A couple of 90° street elbows will keep brake lines from rubbing through against shock absorbers on 37-passenger, 4x2, Southern Coaches.

0082 Graphite or oil inside the ratchet tube helps keep M38 jeep throttle wires from snapping.

0083 When commutator bars shake or break loose in a generator —replace the generator.

0102 Mixing equal amounts of 30-weight and 10-weight oil together will not give you 20-weight.

0103 Ammeters that read high, then fall back, are no good reason to tear into voltage regulators—there is **no good reason** for breaking the seals on those regulators.

0162 Even the attempt to put M34 steering-knuckle bushings and thrust-buttons together upside down will tear the inner oil-seal.

0164 Replacing burned-up carbon resistors in spark-plugs with pieces of brass welding-rod, louses up radio suppression and burns up radio operators.

0165 MWO ORD A55 W-17 says the container-box assemblies on cal. .50 machine gun mounts may need trimming to keep ammo from jamming in the tray.

0168 You can't "hot-rod" a 155-Howitzer—like removing safety latches to speed up operations—you're asking for more than you can control.

0169 Knowing how to use the truck's weight to help break loose tires that have rusted to rims, will save lots of sledge-hammering.

0144 Starting aircraft without auxiliary power-units can be done with a 24-volt jeep or truck, a long cable, appropriate cable plugs, and care to get the polarity right.

0146 Dodge, M37's, produced prior to June 1951, need a "cut-out" in lower rail of pioneer-tool bracket to allow tailgate to hang down instead of out.

0148 Crankcase capacity is 13 qts. for Waukesha Motor Model No. 140GKB—but with empty filt-

(continued to p. 308)

A new way to clean those Air-Maze Filter Discs

AMAZING GADGET

Johnny "Gearcase" Voelkel (D&PS, Aberdeen Proving Ground) thinks he should have thought of this sooner. To quote him, "Getting the heavy coating of gook out of the air-maze filter discs used in cross-drive transmissions and Continental engines (all late model tanks have them) used to be a rough job. A lot of time and effort went down the drain. Now it's a cinch. The sludge, bronze, and aluminum chips come out as easy as a toad falling off a log. Pull up a GI-can and have a seat. I'll tell you how to make one.

"First, get a 4" piece of 1¼" OD steel tubing, a 1¼" Ermeto fitting sleeve (H006-0354230), a 5/16" SAE bolt and a 1¼" ID bushing about 1½" long. Take the Ermeto sleeve and slip it on the 4" piece of tubing, with the flange upward; weld it 1½" from the tube's top." Voelkel continues, "Next, above the Ermeto sleeve flange drill a series of 3/32" holes about ¼" apart all the way around the tubing. Then 1" under the Ermeto sleeve drill a ⅛" hole. Now you seal both ends of the 4" pipe by welding a 1¼" circular piece of metal on them. Take the 5/16" bolt, insert it in a vise and drill a hole through its center, lengthwise. This bolt will be your air-nipple, it fits the DeVilbiss type DGA air-nozzle, if your outfit doesn't have this nozzle then you'll have to improvise a nipple that'll fit the air-hose you have. Weld the nipple to the ⅛" hole in the tube. The last step, champfer one end of the 1¼" ID bushing." (Fig. 1)

"To use this cleaning fixture, remove a contaminated disc from the assembled dirty filter and place it on the tube so it'll rest on the Ermeto sleeve, slip the bushing on after it (champfer-end down), then attach your air-hose. With a light air-pressure blowing thru the disc, scrub it with a stiff bristle brush saturated with cleaning solvent. Clean one disc at a time in this manner." (Fig. 2)

"Don't soak the dirty discs in solvent before putting on the fixture, this lets the outside dirt get inside and makes the job tougher and sometimes impossible."

Fig. 1

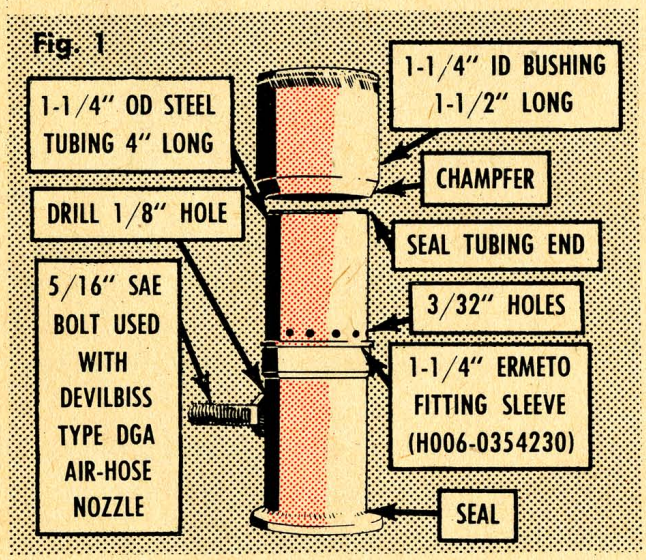
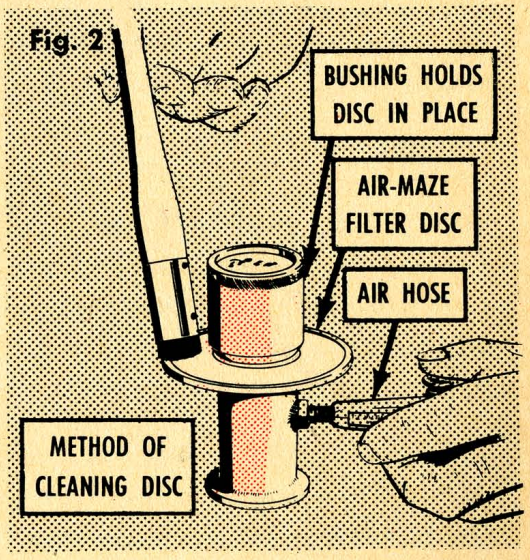
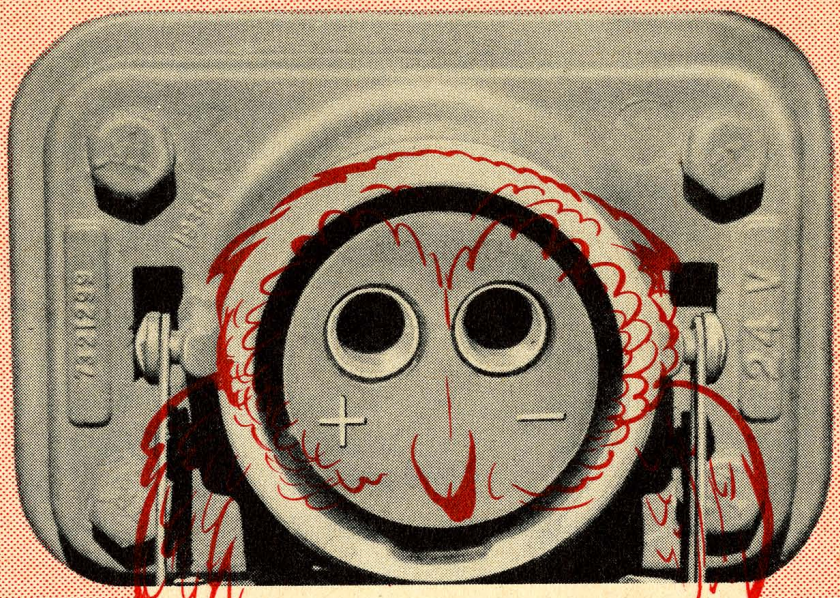


Fig. 2



KNOW YOUR
24-Volt Slave-Receptacle and Cable



Does the slave receptacle in your interim vehicle work?

The old saying, "the left eye in the owl's head is positive," may have given someone a bum steer and resulted in the slave receptacle being hooked up wrong.

Left or Right? It all depends on how you look at it. From the owl's point of view, it's his **right** eye that's positive. But from where you sit, the positive eye is on your **left** while you're looking at the bakelite core when it's mounted head-up on your vehicle.

Check it. Get a test-light or voltmeter. Put one wire in the right eye and the other wire on a suitable ground on the vehicle. If the right eye's hot, then the slave receptacle's OK. But if it isn't, something's wacky. Either the vehicle's polarity is backwards or the slave receptacle's installed wrong.

Chances are it's the slave receptacle. If you're in doubt, start your vehicle, race the engine, then look at the ammeter . . . if it's charging, the polarity is OK. This tells you for sure it's the slave receptacle. What you've got to do is remove the four screws from the slave receptacle, get at the wires and put the hot wire in the owl's right eye (on your left).

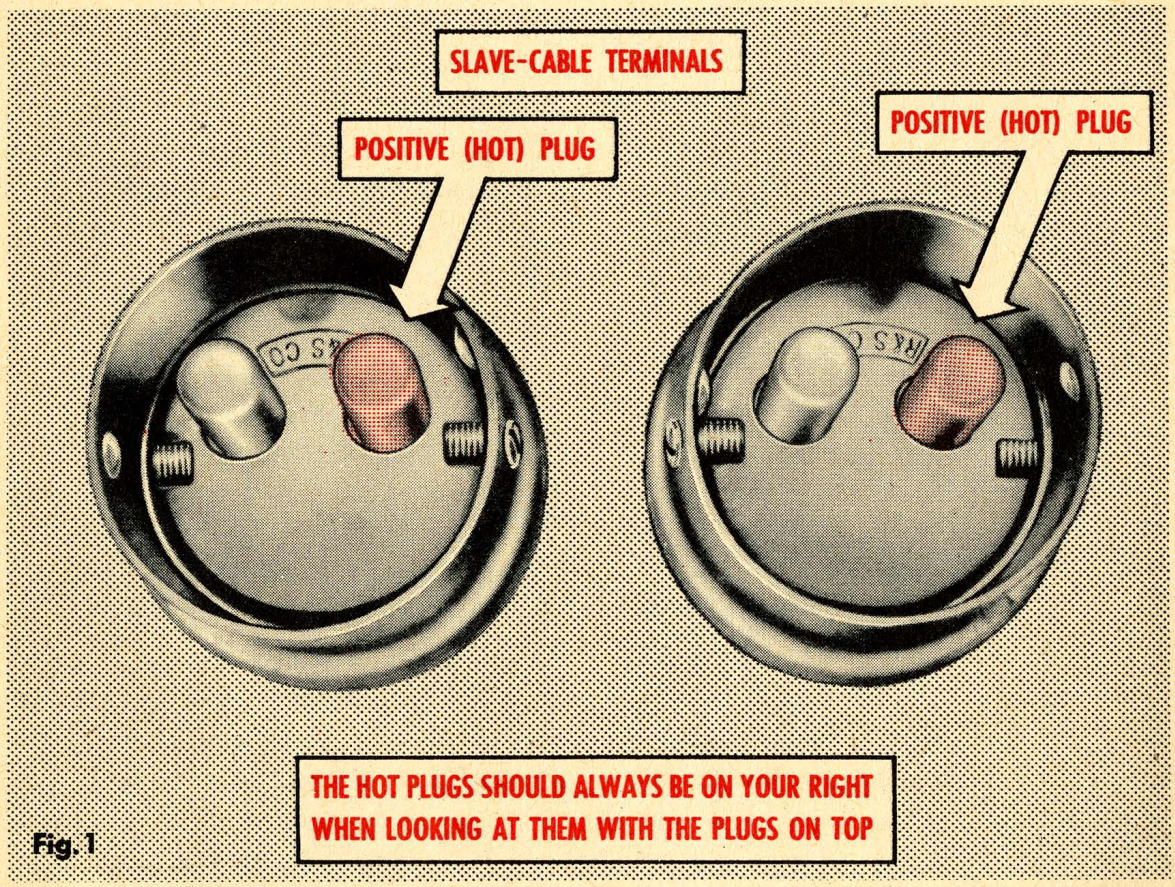
Another thing that has cropped up to plague the generating system of your vehicles is a faulty slave-cable. Some

cables get twisted when assembled and have no continuity between the end terminals. When using this positive to negative hook-up, the polarity in the vehicle that's being rejuvenated is changed. It also causes a heavy arc at the slave receptacle and just spells trouble in general.

Before using your slave cable, check it for positive-to-positive and negative-to-negative installation . . . make sure both end terminals have the hot wire (+) on **your right** when you're looking at them with the contacts on top (Fig. 1). To test . . . plug one end of the cable into a hot slave-receptacle. Then on the cable's other end, put one wire of a test-light or voltmeter on the supposed hot pin and ground the tester's other wire on the vehicle; or just stretch the cable on the ground and trace the wires. If they're crossed, unscrew the two side and rear screws on the terminal and slide back the metal cover. Then remove the contact screws, pull out the contacts and replace them so the hot wire will be on **your right** when the contacts are on top of the core (Fig. 1).

Both cable connector terminals should have their indicating arrow on the opposite side of the contact pins. If they're not, the cable may not fit into some tight slave receptacles. The best remedy for this is to file off all three guide lugs.

It isn't advisable to use a slave cable between vehicles with different voltage systems. Plugging into a 12-volt or 6-volt system from 24-volts is liable to blow a battery through the hood.



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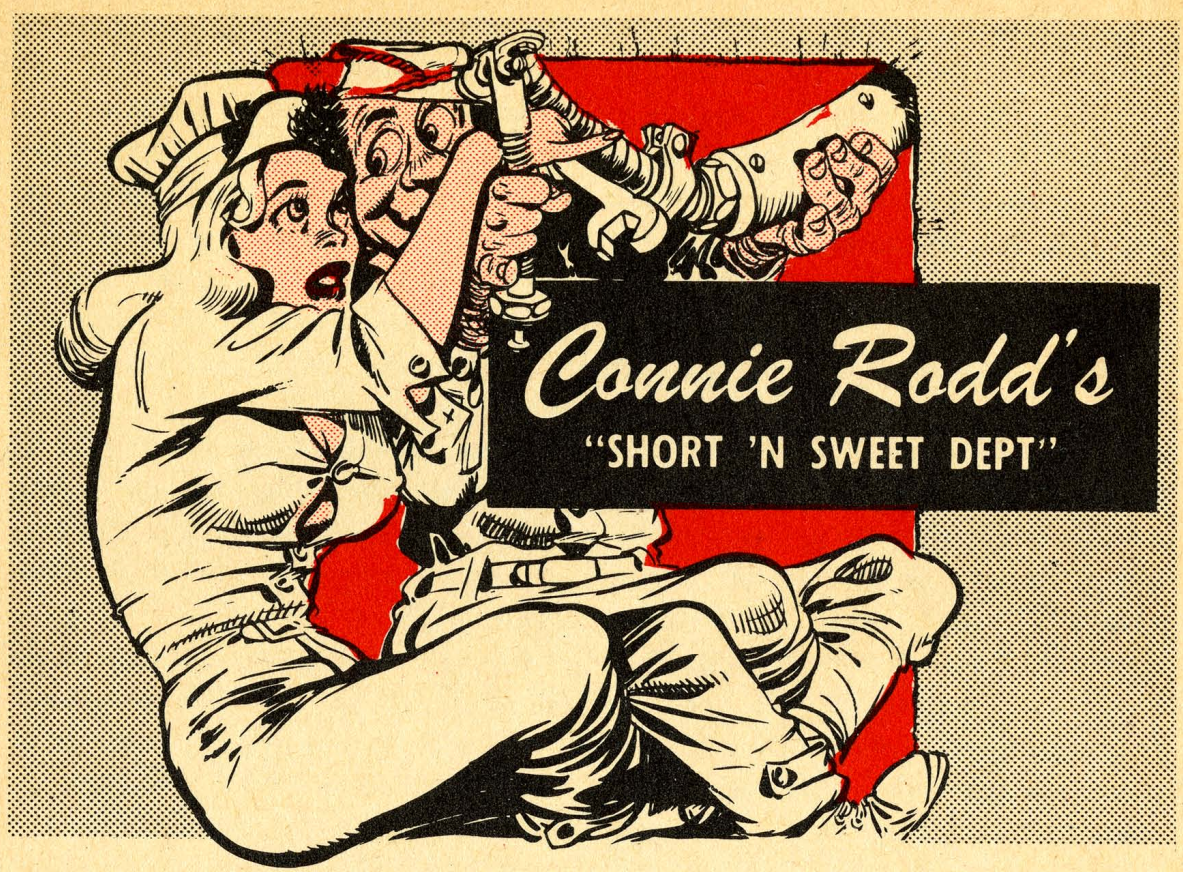


Burned out sealed beams

There've been rumors of trouble with burned out sealed beam units on the new type vehicles . . . and all sorts of theories for correcting the trouble. There are those who recommend turning **off** all light switches before starting the vehicle. The other school of thought goes along with the idea of turning **on** all the light swtiches.

All we can say at this point is that the 24-volt electrical system has just come into use. The 24-volt lamp filament is not as strong as the 6-volt—it is thinner and longer. Tests have indicated that vibration is the basic cause of headlight failure. The passing-beam filament sags and touches the filament posts for the driving-beam. The extra high current getting through the passing-beam in this manner causes its filament to fail as though due to high voltage. Upon further examination of the unit, there's no high voltage to be found. Vibration does it.

For the time being, our advice is: when the unit burns out, replace it.

Chewy OE-dipsticks

It's possible that a lot of oil is being wasted in your Chevrolet 1950 and 1951 sedans and ½-ton and ¾-ton pick-up trucks. You might have the same condition on the 1949 sedans and ½-ton's, too. Some of the OE dipsticks (not all of them) have a slipping washer. This is because the hole in the washer is large enough to let it slide over the angled-shoulder on which it should rest, and down the stick (Fig.

1). The other type of dipstick on these vehicles doesn't have the angled-shoulder, or a large enough hole in the washer to let it slide.

When you measure oil with the dipstick that's dragging its washer, you'll get an incorrect reading. You insert the dipstick as far as the washer lets it go, which isn't far enough since the washer is wedged too low on the stick. You think you haven't enough oil when you may even have too much.

You can put a halt to this fooling around by tack welding the washer to the stop (Fig. 1). Use a small, low-temperature rod, and weld only on the top side of the washer. Be sure the washer's smack up against the stop when you do it.

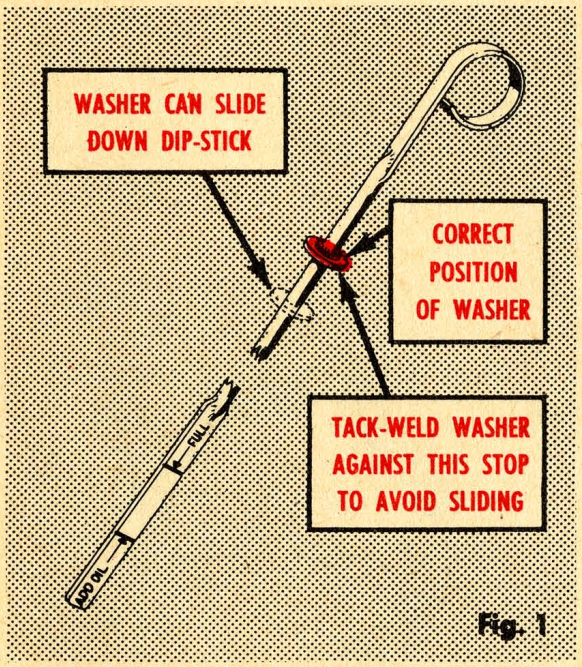


Fig. 1

Steering-gear mounting-bolts

If you're driving around a 2½-ton Reo or Studebaker, a real smart thing to do would be to check the torque on the steering-gear mounting-bolts. It seems they got out of production maybe right, maybe wrong. And it's mighty hard (more bluntly—impossible) to tell by a visual inspection whether or not they're torqued right.

The correct torque on these bolts (Fig. 2) is 60-65 foot-pounds. How about doing the job before trouble starts?

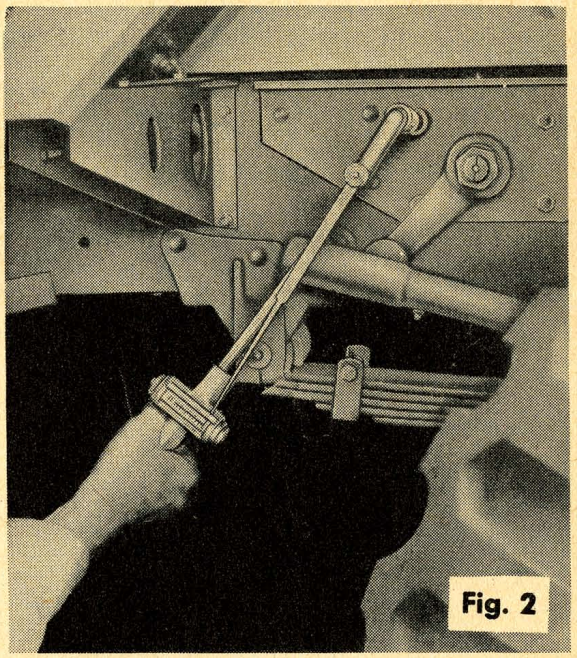


Fig. 2

Draining pressurized cooling systems

If you don't want a busted block, gentlemen, you'd better remove those caps!

No, Connie hasn't gone high brow on you . . . just pointing out the risk of pulling a drain job on pressurized cooling systems with the caps on. Vacuum will prevent smooth drainage (like when you punch only one hole in a beer can) and you won't be aware of the water that stayed in the block until the first real freeze when your

favorite transportation burns up with a busted block.

So play it safe—when you pull out the drain plug, take off the radiator cap.

Gas in the oil

You've heard the story about gas in the air cleaner, and how to get rid of it (PS, November, p. 225) and the story about gas in the crankcase when the wrong cap's put on the gas tank (PS, November, p. 233) but here's one you maybe haven't heard. It's a related problem about how gasoline gets in the crankcase.

Sometimes the pressure-relief valve on the fuel tank sticks (Fig. 3 and 4). When that happens and the engine's been idle in the hot sun for a while, pressure builds up in the tank with enough force to push the gas through the pump, past the carburetor, and down the intake manifold where it finally seeps by the piston rings to the oil in the crankcase. Under high pressure it could even ooze through the primer pump. To avoid all this it would be smart to leave the cap of the tank in the pressure-release position while you're not using the vehicle during hot weather.

Trailer tail-lights

With an ordinary GI flashlight (TL 122) tacked on to the back end of the M100 trailers with a couple of U-bolts (or some wire and a spot weld), and a rubber band to anchor red cellophane over the lens, you're ready to roll at night without fear of being tossed in the clink. A couple spare batteries (BA-30) for just in case, and you're in good shape until your jumper cables or modification kits catch up to you. Do I hear a better offer?

Fig. 3

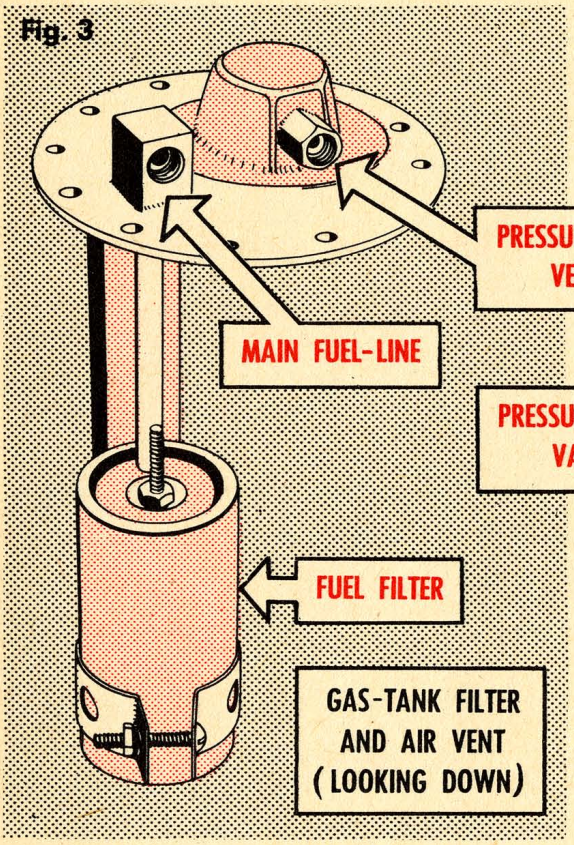
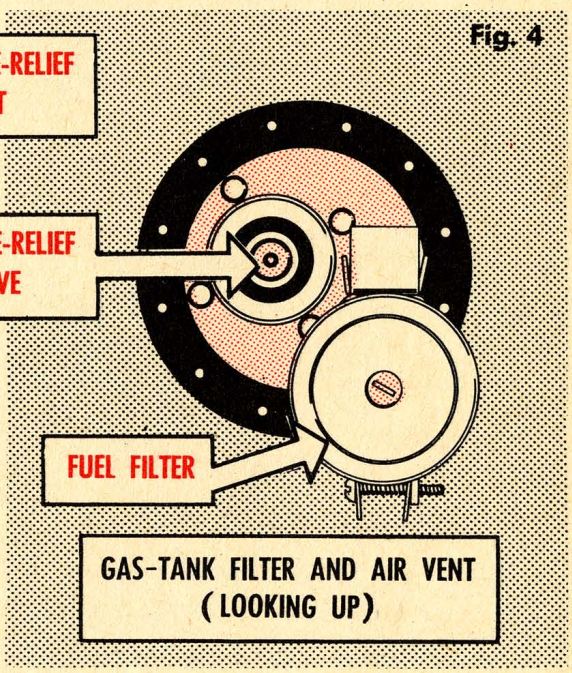


Fig. 4



tank talks

A LITTLE GOSSIP ABOUT THE M46, M46A1, AND M47

First, most important and most basic, is the way to drive these tanks. More specifically, the way to back them up. Just because you can shove her in reverse while the tank's still in a forward motion, doesn't mean you're a wing-ding of a driver.

Sure, you've seen it done. Sure you can name names—big names. Sure, the tank can do it. **You** can jump off the roof of Radio City—but unless you're a kind of a bird, landing is a different matter. But you **can** do it.

Engaging reverse while in forward motion is something your tank **can** do—but she's a tank—not a bird either.

In brief, what happens is that the transmission reverse-band quickly grabs onto a revolving drum to stop the drum's motion. This is exactly what the reverse-band is supposed to do, to control the transmission. But if the tank is moving forward when you shift to reverse, then the reverse-band has to stop the tank! **The whole darn tank.** How many tons is that, multiplied by how much motion?

What it takes to stop the forward motion of the tank, engineering wise, is something like **eleven times** the area of that reverse-band you're forcing to do the job. Eleven times. That's a lot. Eleven times your present beer-capacity could get you a busted gut. And for sure you'll get a busted transmission when that reverse-band burns up. It doesn't take much horse-play to shred it, either.

STOP your tank before shoving her into reverse.

CEASE FIRE!

How's the muffler shield on your M46? It does a fine job of hiding the exhaust-glow, top and side—but maybe it also does a fine job

of collecting air-borne debris such as leaves, bits of paper, and saucers. This is a real tidy habit, and not harmful as long as the tank's parked. When you're on the prowl again is when the trouble starts.

The red-hot exhaust ignites the collected trash, the wind blows it out the rear end, and you leave a blazing trail behind you.

There's a screen on the end of the muffler shield to eliminate this fire hazard on newer production. This will keep out the junk when the wind blows. You can rig a similar fix for your tank—whether you have a short-sided shield (Fig. 1) or the newer shield (Fig. 2). And until you can get around to assembling the apparatus, a before-operation or at-halt cleaning of the muffler-shield area will stop the fires.

FINAL-DRIVE GEAR-RATIOS

The gear-ratio in the gear boxes for your final-drive should be matched, the same, paired—this you know. If they weren't matched, you could get nowhere going around in circles.

Something you maybe don't know, however, is that where the CD850-4 transmissions are concerned, your final drives could be unmatched in gear-ratio. Along about mid-way in production, the gear-ratio was upped to 4.47 to 1. This marking (4.47 to 1) appears on the final-drive housing. Prior to this change, the final-drive housings were not marked. And that's how you can tell the one from the other. And that's how you can be sure of getting a mated pair in your tank.

FUEL AND SPARK-PLUGS

Detonation is a five-buck word that can mean more dollars than that in damage to pistons, rings, etc. And many things can cause excessive detonation, among them are: the wrong fuel, and the wrong spark-plugs.

There are no "buts" about it, soldier—there's **one** right fuel, and

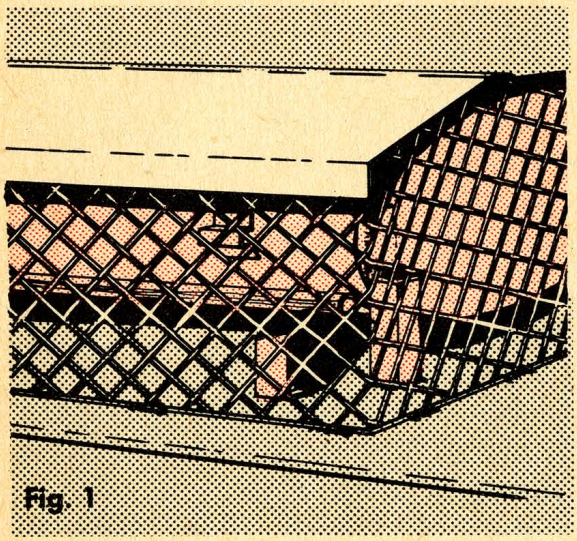


Fig. 1

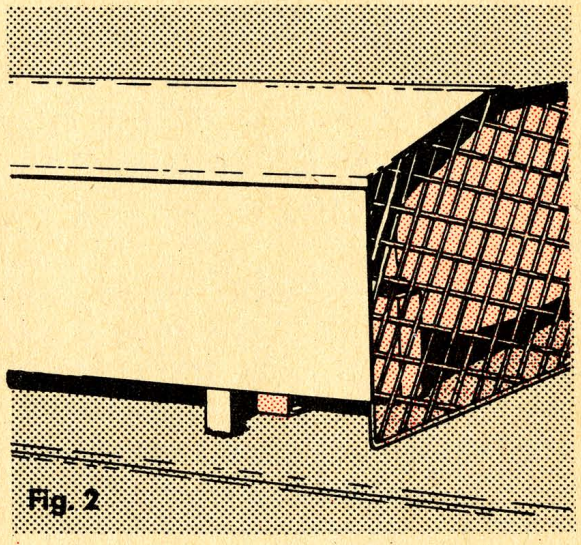


Fig. 2

one right kind of spark plug.

The right fuel is 80-octane gasoline. That is not 65, not 70, not 75, but ATE-OH—eighty octane. The right kind of spark plugs are tagged with Federal Stock No. G244-752-1165 for engines with serial numbers up to and including Engine Serial No. 1103—after Engine Serial No. 1103, you'll use spark plugs under Federal Stock No. G244-7525550. Whether or not you scream about how hard they are to get doesn't make another kind OK for the M46, the M46A1, or the M47.

You can use the right fuel and the right plugs and be a huge success—or you can use the wrong kind and go detonating all over the place. This latter choice will eventually find you without a tank to call your own. And you may find a replacement harder to get than the right fuel and the right plugs.

OIL-COOLER CLUTCH FAILURES

The main reason for the clutch in the oil-cooler fan going dead electrically has been attributed to dirt and oil in the fan-brush housing. The grime adheres to the fan-shaft and gets polished to a glaze that's been acting as an insulator. Since the magnetic clutch gets its electricity through this shaft it must be clean at all times to be a good conductor.

The quickest and best way to remove the hardened glaze from the shaft is to unscrew the square-headed plug from the brush-holder housing and give the shaft and brushes a good douse of carbon-tet. Do this periodically and you'll get rid of ninety percent of the fan's electrical failures.

ENGINE-OIL-FILTER

After an M46 main engine has been overhauled or repaired from a major breakdown, it's good practice to pull out its oil-filter and give it a good cleaning . . . **after the engine has been installed in the tank and run for approximately five hours.** The usual procedure has been to clean the oil-filter during the overhaul then forget it till the next oil change. This method has proven to be rough on the repaired engines and on the backs of the overhaul crews.

When an engine has an internal breakdown, tiny metal particles often go flying about and are carried into the oil-coolers. They stay in the cooler-cores because very seldom do the coolers get flushed out while the engine's being worked on. When the engine's connected to the oil-coolers all the bits of ground metal and gook that's in the cooler-cores get washed into the filter and eventually clog it. This causes the filter by-pass valve to open, allowing the oil to carry the metal particles and muck back into the overhauled engine.

Cleaning the filter after five hours of engine time is a sight easier than overhauling the engine a second time.

LVT FASTENINGS

Dear Half-Mast,

On our LVT IV's (Landing Vehicle, Tracked, MK IV) our biggest headache is the grousers and cross-plate capscrews (FOM-5X1091B). After operating for a short time, these screws tend to work loose, and as there are 292 screws per vehicle, you can see it takes time, sweat and a lot of cussing to tighten them.

Also, if they're left long enough without being tightened, the grouser itself will come loose on one end and then you've a splash deflector to replace along with a grouser. We've kept the track tension right on the button, as a loose track causes a lot of vibration and the screws loosen that much faster.

It's pretty embarrassing to have to stop in the middle of an operation to tighten grousers. Have you got a cure for this particular headache?

Sgt R. M. M.

Dear Sgt R. M. M.,

Deepest sympathies are extended. It's a real aggravation to keep up with those —count 'em——1168 fastenings on the LVT track . . . but, if you'd tighten and then tack-weld all the capscrews (on the grouser side) to the short and long link-nuts (Fig. 1), your problem should be a problem no longer.

Who's muttering "The cure's worse than the disease?" Well, it **is** a dirty job, but once it's finished you got no worries for a long, long time.

Couple of things to remember though —the capscrews have to be tightened before tack-welding, but how tight is tight? Here's where you work mostly by feel (if you over-tighten you'll strip the threads and if you under-tighten you're right back where you started). So go easy on the pressure, and when you think the capscrew has had enough, give it another slight twist until you **feel** resistance —

and that's it. Before you begin tack-welding, be sure your LVT's had enough hours of dry-land operation to stretch the capscrews as much as they're going to, else they **will** stretch in operation. And when welding, avoid too much heat (don't weld a bead all around them) or they'll soften up and stretch more later.

From where I sit it's easy to tell you not to operate your LVT IV's on hard surfaces . . . but since we got to be realistic, your next best bet is to secure the capscrews before you get a screw loose yourself.

Half-Mast

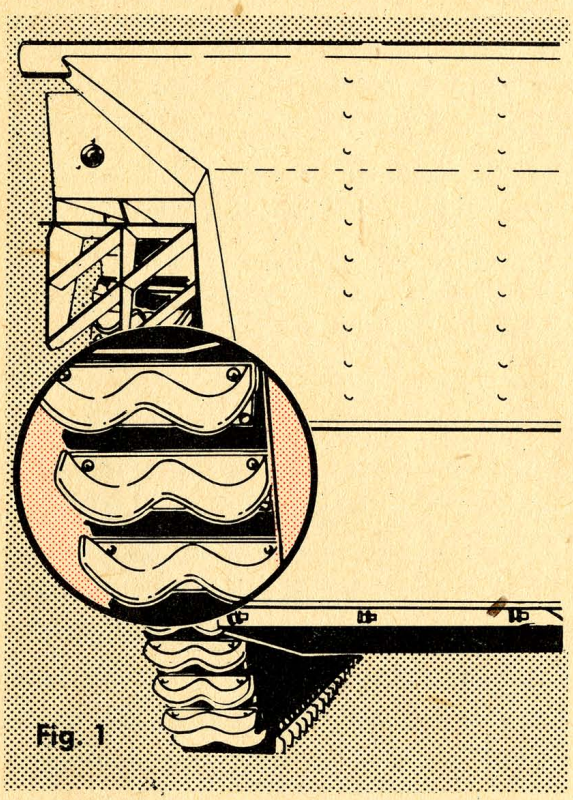


Fig. 1

SPARE-TIRE PLATE

Dear Half-Mast,

We had an argument about the old Jeep ¼-ton spare-tire plate, that is: which side goes out? Some of us say that the cupped edge goes out, and some say it goes in; others say they don't know.

We would like to know if it makes any difference, or if there is any certain way you would suggest.

SFC T. A. B.

Dear SFC T. A. B.,

Yep, there is a difference. If you take a close squint at this plate, you'll see a bevelled edge on the mounting stud holes. This bevel is set to take the bevelled edge of the mounting stud nuts just like in mounting the wheel on the vehicle. That way the lip of the cup faces in and helps keep the wheel centered on the tire rack. Otherwise, the tire may get shifty.

Half-Mast

WHEEL-BEARING GREASE

Dear Half-Mast,

In the June PS Magazine there was an article on the packing of wheel bearings on the M34 Eager Beaver. We don't have M34's in this motor pool but if this lube policy applies to the M34 why not to any other vehicle?

Sgt C. A. B.

Dear Sgt C. A. B.,

The M34 Eager Beaver used to be the only exception to the general lubrication policy so far as the amount of lube is concerned, this exception having been made at the request of the engineers. Seems there's a difference of opinion on this lube question. Some people believe that a large amount of grease will insulate the heat dissipating ability of the hub. Others believe the extra amount isn't needed because enough lubricant is received from what is packed right in

the bearing and that any excess is a waste.

As of now, both the new 2½-tons (Reo and Studebaker) and the 5-tons (International) are operating under this "extra" grease policy. On all other vehicles the amount of lubricant remains the same as formerly but the interval has been changed from 6,000 to 12,000 miles as of January, 1951.

Half-Mast

DIFFERENT SHOCK–ABSORBERS

Dear Half-Mast,

Is there any way possible of installing different shocks on ¼-ton 4x 4's so they will take more shock?

Sgt B.M.C.

Dear Sgt B.M.C.,

They're working on an improved shock absorber for this vehicle but it might take some time 'till we see it. Meantime, hold on to your teeth.

How about checking the shocks you have on to see if they're worn and need replacing? Also, try setting your speed according to the nature of the terrain you're on—if you can. Basically though, the M38, like most military vehicles, is a sacrifice of comfort for ruggedness and never will be very relaxing.

Other shocks could be put on with a few fixits but it would mean more wear and tear on you or your buggy than either of you were built for. It isn't considered the best thing to do.

Half-Mast

BATTERY TROUBLES

Dear Half-Mast,

I was lucky enough to get hold of your first and second copies of PS Magazine (midnight requisition). Must say you are in there pitching, Mac . . . I only hope the Marine Corps will see the light and get on your mailing list. In issue No. 1 you answered one electrical problem I've had, but you didn't mention a couple other battery items I've had trouble with.

After checking everything else on a couple batteries that kept losing charge overnight, I finally found a ground cable loose at the frame which helped some. Later got to fiddling around the battery top with my meter leads and found I could get a reading in the sealing compound around the cells. After cleaning out this tar and replacing it with new, the batteries held a good charge. Was I right?

Marine Sgt R. A. O.

Dear Marine Sgt R. A. O.,

You got something there Sarge, anything that breaks the electrical connection in the charging circuit, regardless of location, will foul the works. And of course current leaks, regardless of location, will drain the charge. Both of the items you mentioned are often overlooked. Swollen and spongy sealing compound is a current conductor that many don't know about. When it looks suspicious, best replace it first chance you get. And in a case like this, it'll pay you to check for sulfated plates, too.

Half-Mast

M135 trouble stoppers

TRANSMISSION ADJUSTMENT

Until such time as the front band in the automatic transmission gets itself accustomed to the drum, it's going to need checking—often. This is so important to the life of the transmission that "check" intervals have been specified. 1. Prior to troop issue (more specifically, immediately upon receiving vehicles from the manufacturer). 2. After 500 miles of operation, check and, if necessary, adjust the band. 3. After 1500 miles of operation, do the same thing. 4. After 3000 miles of operation, repeat the procedure. What procedure? You do like it says in TM 9-819A, page 266, paragraph 179, and Fig. 104.

And at any time that shifts don't occur like it says in Table VIII, p. 259 (same TM) the front band adjustment should be checked. The rear band adjustment, by the way, is something you don't have to touch—it's automatic.

ENGINE-OIL DIP-STICK

If you're getting hot flashes, removing the engine-oil dip-stick for a quick look and tickling the battery in the process, a little repositioning of the guide tube will prevent shorting on the battery terminal. You'll notice the guide tube is designed with a slight bend to eliminate interference in the close quarters. Loosen the retaining nut at the base of the guide tube and turn the tube so that when the dip-stick's removed, there's more space between stick and battery. Tighten the nut.

This will make for better relations, but you still can't play like you're waving a flag when you pull out the stick—a steady hand will make the difference.

BRAKE BACKING-PLATE SCREWS

Check your TM 9-819A on installing the brake backing-plate to the steering-knuckle (page 292). It says to install the 12 retaining screws and lock washers, and tighten the screws.

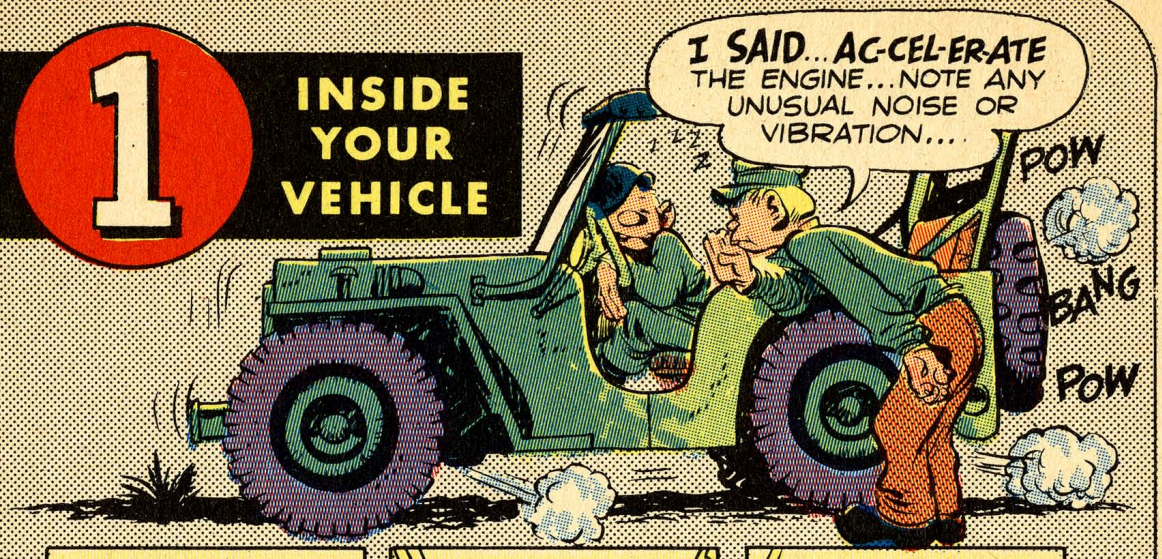
These screws **must be tight,** so curl your fingers around a pencil and add a note in your manual for future reference. GMC says to torque the screws, please. The correct torque reading is 27-30 foot pounds. And in this instance, that's how tight is tight.

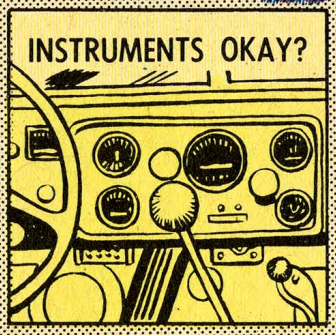
RADIATOR BRACE-ROD

That rod attached to the upper left corner of your radiator is known as the radiator-steady-brace. Normally it is fastened in its spring loaded clip. If it isn't, put it there. This rod should be fastened to the cylinder-head bolt **only** when the engine is being removed or replaced. Otherwise, the rod's bracket will be torn loose from the radiator upper-tank when the vehicle flexes in motion.

JOE DOPE
HOW TO PERFORM AN AFTER-OPERATIONS SERVICE ON YOUR VEHICLE
HOME AT LAST!!
SCREECH
GROAN... WHERE'S ME SACK?
AHHHHH... HOLD IT... BOY...
YOUR VEHICLE NEEDS ATTENTION AS SOON AS POSSIBLE AFTER YOU PULL IN...
BUT I ALREADY GIVE IT A WEEKLY GOIN' OVER!
FINE, BOY...
...BUT DON'T SHUT THE MOTOR OFF!
NOW...TO KEEP IT IN RUNNING CONDITION WE MUST CHECK OUR VEHICLE IMMEDIATLY!
ZZZ

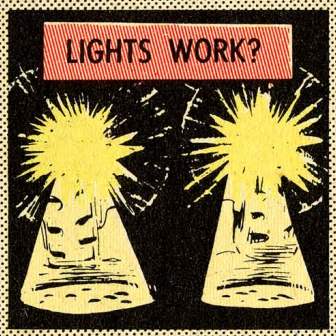
1 INSIDE YOUR VEHICLE

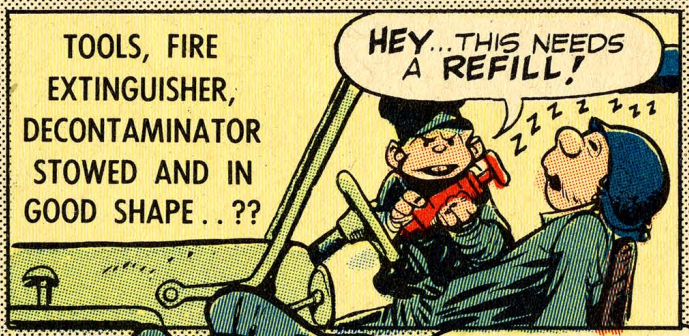




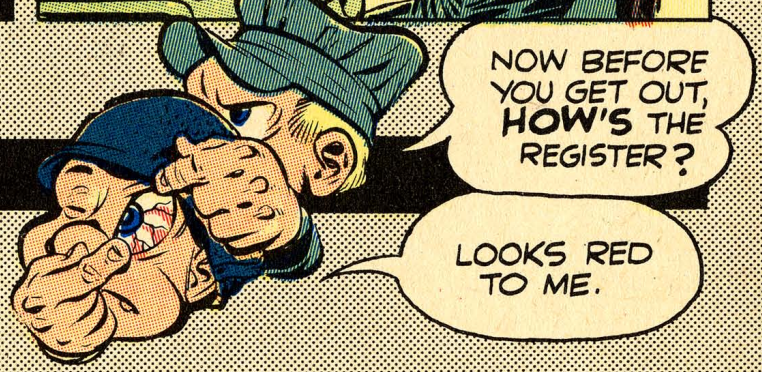
ON COMBAT VEHICLES

CHECK PERISCOPES AND PROTECTOSCOPES





AMPS



2 OUTSIDE YOUR VEHICLE

SO...FROM HERE ON IN, WHY DON'T WE CHECK IT IN A LOGICAL SEQUENCE ...OR BY-THE-NUMBERS.

3 ACCESSORIES

CARBURETOR, STARTER, AND MAKE SURE SITUATION IS NORMAL UNDER THE HOOD

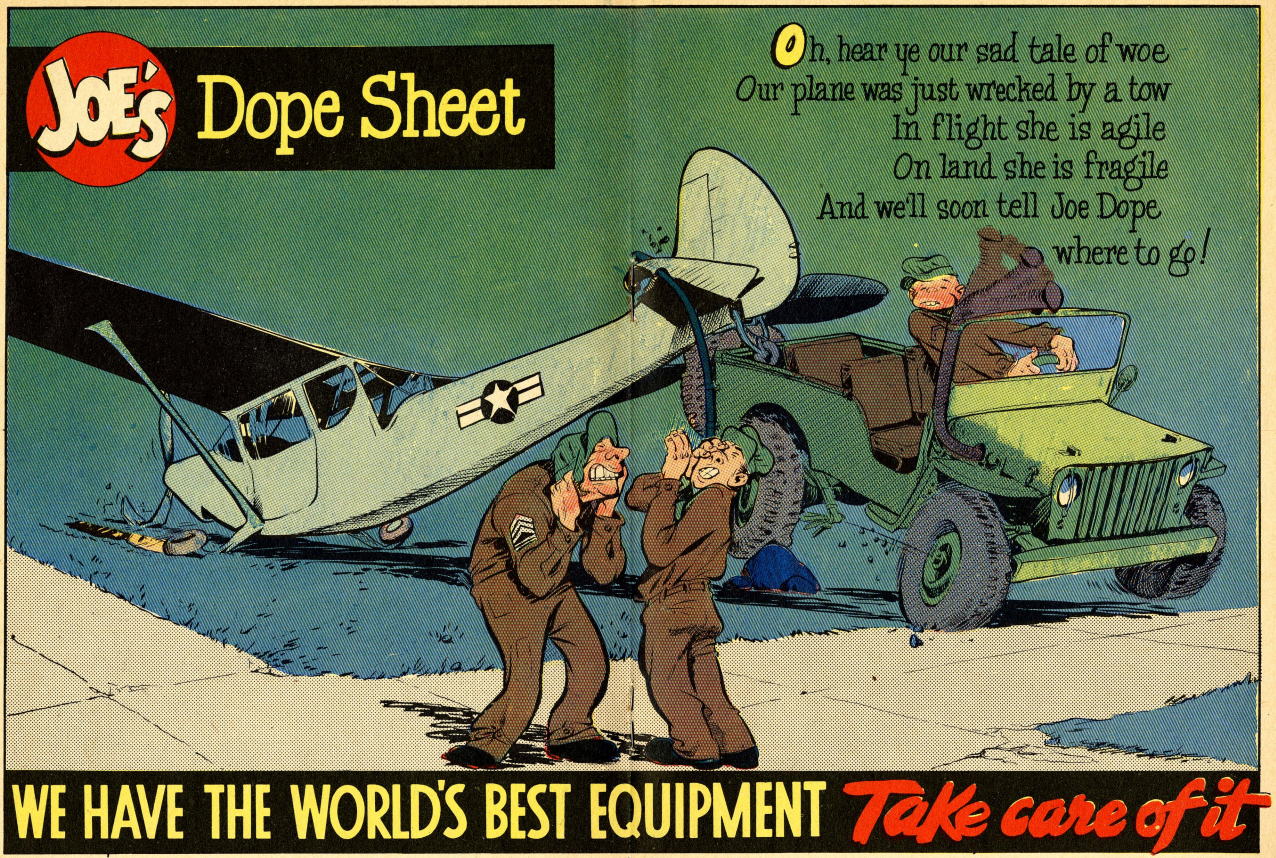
4 OUTSIDE CHECK

THINGS TO DO

- INSPECT AND CLEAN TIRES ☐
- TIGHTEN RIM NUTS AND WHEEL MOUNTINGS ☐
- CHECK AXLE DRIVE FLANGES, TIGHTEN "U" BOLTS ☐
- INSPECT ARMOR ☐
- INSPECT TURRETS AND GUN LOCKS ☐
- INSPECT TOWING CONNECTIONS ☐
- INSPECT BODY, LOAD AND TARPAULIN ☐
- CHECK CENTER BEARING AND VENTS ☐

5
CLEAN UP
LUBRICATE EVERYTHING THAT NEEDS LUBRICATION, CLEAN DIRT OFFA ENGINE AND CLEAN TRASH OR DIRT, OUTTA THE INSIDE!
GOSH, LOOKIT FOSGNOFF, HE'S A MESS!
WHAT HAPPEN' FOSGNOFF, THEY AMBUSHED YUH ??
ENEMY JUMP YA?
ZZ Z Z Y'MIGHT SAY THAT...
LOTS OF ACTION, EH?
YUP... ZZZZZZZ
HER OL' MAN USTA BE A BOXER...

PRODUCED UNDER SPECIAL LICENSE TO U. S. DEPT. DEFENSE COPR. 1952 WILL EISNER PRODUCTIONS



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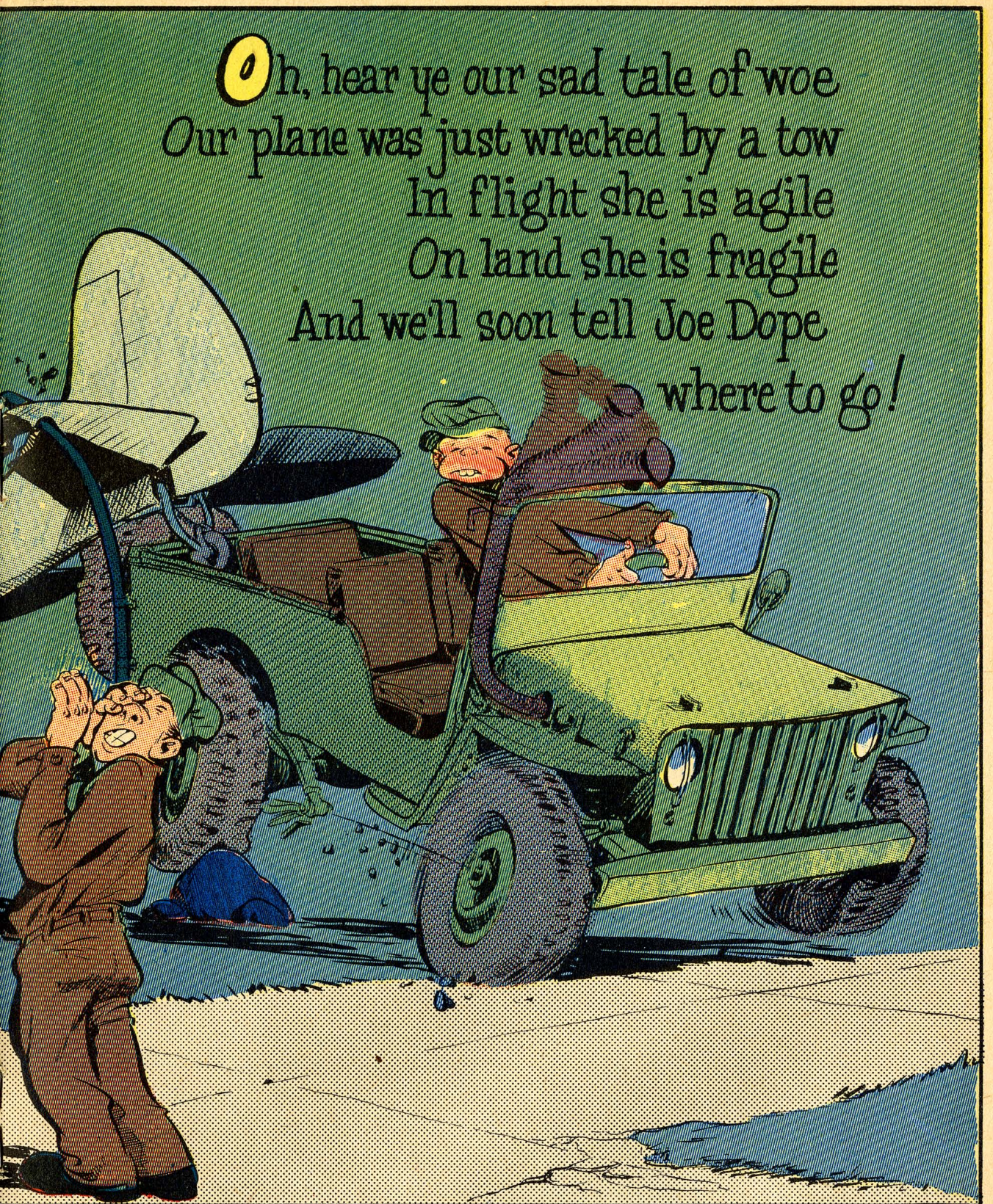
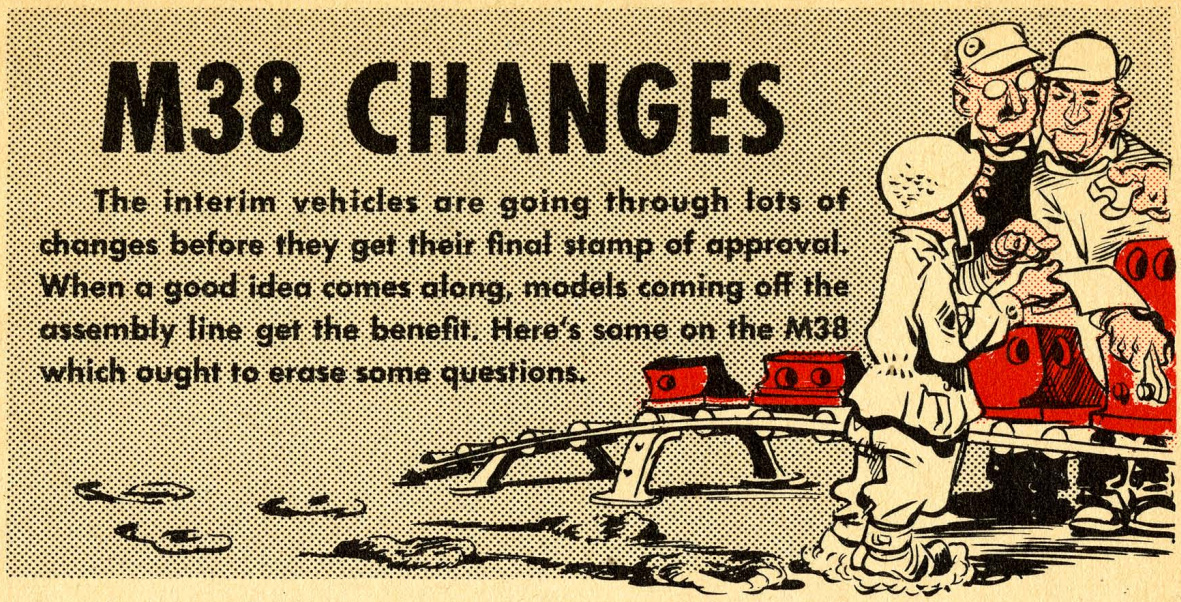


QUIPMENT *Take care of it*

M38 CHANGES

The interim vehicles are going through lots of changes before they get their final stamp of approval. When a good idea comes along, models coming off the assembly line get the benefit. Here's some on the M38 which ought to erase some questions.



LEAKY BY-PASS HOSE

A leaky by-pass hose can let water out of your cooling system and onto the motor. And that's no place to by-pass your water. This problem may be caused by a loose nipple in the water pump body at the lead to the by-pass. To solve this, remove the by-pass hose, tighten the nipple and finally replace the hose. Use a water-proof cement as well as the clamp to seal the hose in place.

STEERING-KNUCKLE CAP-SCREW

Some turning radius stop-screws nudge the ridge on the cap screw of the steering knuckle, hard and often, bending the ridge. This stops the front wheels from stopping where they're supposed to stop. That can cause the front tires to rub on the tie-down brackets. One fellow suggests filing off the ridge to get a solid surface and then raising the cap screw with a washer for the original thickness.

NEW BOLTS AND CABLES

The need for hardened steel bolts for attaching the brake backing plates to the axles led to bolt, Ord No. 181370, $\frac{3}{8}$—24x1 $\frac{1}{4}$ hex. head, to replace bolt GM-100027 a few months ago. These bolts take the strain of brake application.

And the hand-brake cable and its sheath have been made 1 $\frac{1}{2}$ inches longer to allow for clearance over the brake master-cylinder shield and exhaust pipe.

TRANSMISSION GREASE IN SPEEDOMETER

We can't say who put the overalls in Mrs. Murphy's chowder, but we have an idea how grease got in Sgt Murphy's speedometer. In the M38 the vent for the transmission is combined with that from the transfer and is located on top of the transfer case. There are times that the breather gets plugged with

foamed-up oil. When this happens, the pressure built up in the transmission and transfer has no outlet so it forces grease up the speedometer shaft, and there you are. Try a larger vent tube and see if it doesn't relieve the sitchyashun.

Overfilling the transmission and transfer with grease can also mess up a speedometer though it's less likely to happen. Anyway, give any excess lube a chance to spill out before plugging the filler hole.

NEW IGNITION PLATE

To make sure you're sure, the ignition switch has ON and OFF positions printed on its plate, Part No. 804639, since last July. At the same time a tag was added to hang on or near the steering wheel as a warning to drivers about the right position of the ignition switch for ON and OFF to avoid run-down batteries. The tag also tells how to operate the main light-switch, the fording knob and the primer.

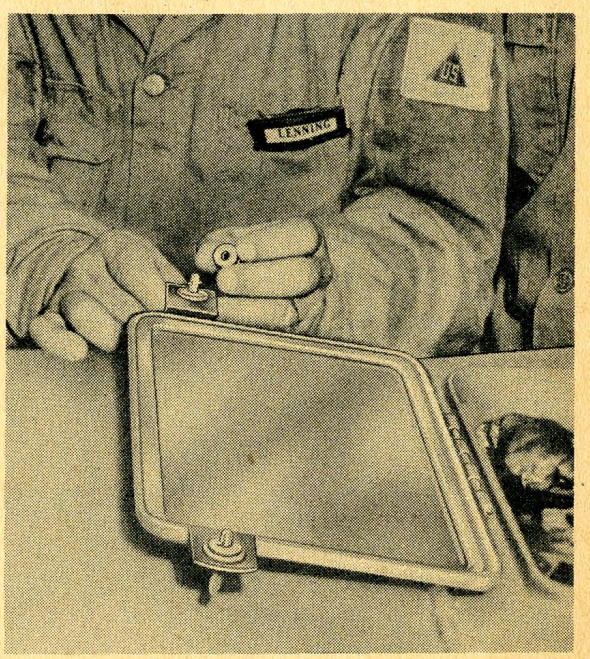
CHAFED HORN WIRE

If the brake line and horn wire get snuggling too close together your tooter can go on the blink. The brake line chafes the wire which may end up in horn trouble. Bending the line slightly toward the engine, allowing about an inch clearance from the horn wire, is one possible solution. But beware about putting a kink in the brake line. Another idea is to let your wire droop a little.

WATER IN MAP COMPARTMENT

Water in the map compartment might not cut you short or wet your cloppers but it can make your odds and ends messy. And water doesn't have to squeeze hard to get through the right-side hole of the battery-compartment lid-fastener when the shank holding the lid down is loose. When you're in that condition, stamp a washer out of a blown-out innertube, using the hollow punch set (2nd echelon tools). This ring should have a 3/16 inch hole and be used with the original washer to seal the shank of the fastener.

At the same time look at the firewall joint in front of the compartment. This joint should be joined tight—weld it if it isn't. The map compartment on the new outfits is water resistant and, while not water-proof, should keep things dry even while fording for a few minutes.

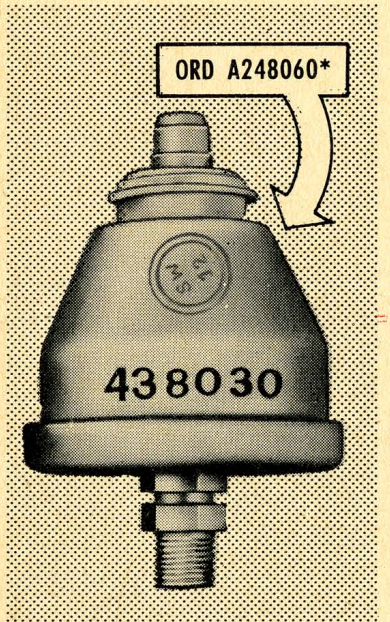


Oil-Pressure Sending-Unit Merry-Go-Round

Are you having a heck of a time getting a new high-pressure oil-sending unit to work in your tank? If you are . . . here's some poop that may keep you from getting into a brawl with your supply-room gang.

First: in the M4, M4A1, M4A3, M26 and their related vehicles, two types of electric oil-pressure-gage systems have been installed.

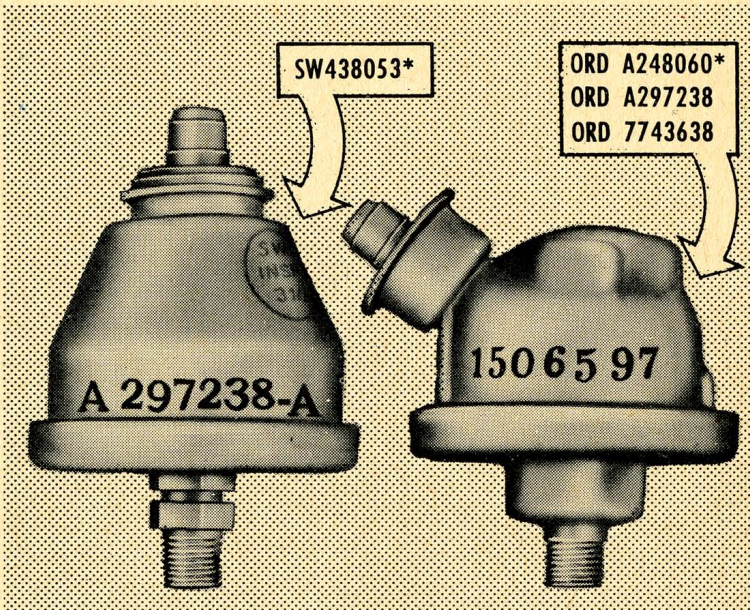
Some tanks have a Stewart-Warner oil-pressure-gage system while others have the AC (AC Spark Plug Div. GMC) system . . . parts from these two systems are not interchangeable. The merry-go-round usually starts when one of the sending units goes kaput and is replaced with a unit that belongs to the other system. You'll probably wonder how you ever got your hands on the wrong sending unit when you got the right stock number out of the latest SNL, and it didn't say anything about sending units for other systems. Well...



UNIT FOR STEWART-WARNER SYSTEM USE ONLY WITH PANEL GAGE

SW 44408
ORD B259562

GROUP A



UNITS FOR AC SYSTEM USE WITH ANY OF THESE PANEL GAGES

AC 1506501	AC 1506501	SW 44419	AC 1506667
ORD B259562	ORD B196013	ORD B208795	ORD 208795
			ORD 6208795

GROUP B

*NUMBERS ON OPPOSITE SIDE OF SENDING-UNIT

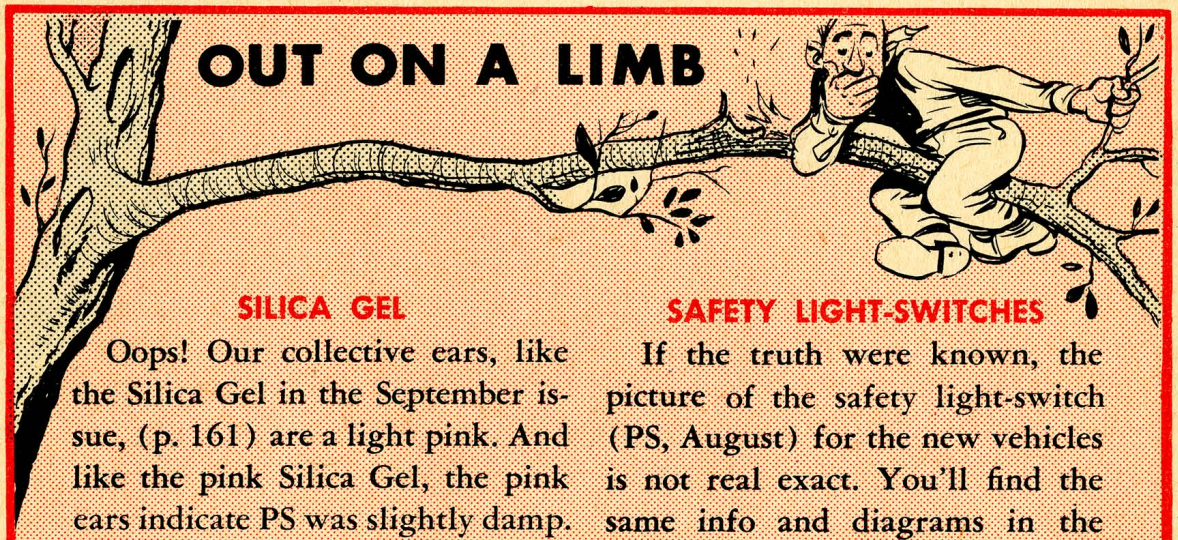
according to TB ORD 96 (22 May 1944), when ordering an oil-pressure sending-unit, it is important that in addition to the stock number, the unit be identified by the manufacturer's name and number, **and** the Ordnance part number.

Try and get these numbers from the old part, not from the SNL. If they're not legible then follow the instructions in the chart shown.

Sending-units and panel gages in group A are of the Stewart-Warner electric system, there aren't many tanks around that have it. One way to tell if a sending-unit is for the SW system, is to test it with an ohmmeter; it will show about 125 ohms resistance when no pressure is being applied.

The sending-units and gages in group B are of the AC electric system . . . the one used in most current tanks. When these sending-units are tested with an ohmmeter, they'll register "O" resistance.

When submitting a requisition for a sending-unit, besides giving the stock number (G104-7743638), manufacturer's name and number, and the Ordnance number, request the issuing depot to comply with paragraph 3 of TB ORD 96 (22 May 1944) if they intend to send you a substitute. This TB says, if the particular unit required isn't available, another interchangeable unit or complete assembly (engine and panel unit) be furnished in accordance with the chart on the TB.



OUT ON A LIMB

SILICA GEL

Oops! Our collective ears, like the Silica Gel in the September issue, (p. 161) are a light pink. And like the pink Silica Gel, the pink ears indicate PS was slightly damp.

It seems that Silica Gel is still in the system, and that only a small percent of it is color coded for moisture content. Most of it is clear crystal, but it may be any of several colors and still be a useful drying agent.

SAFETY LIGHT-SWITCHES

If the truth were known, the picture of the safety light-switch (PS, August) for the new vehicles is not real exact. You'll find the same info and diagrams in the vehicle TM's also. The error: there is no free movement of the main switch from OFF position to BO Drive. The only free movement is one click to the left for BO Markers. Unlock the main switch, please, for all other positions.

ARMAMENT & AMMUNITION

KEEP THAT GUN BOOK— JUST FOR THE RECORD

Ammunition that goes wide of the mark can be more than embarrassing. It has been known to make soldiers very unpopular with their buddies, especially when it falls short and lands among them.

"Wild" shots can usually be traced to: guesswork, carelessness, or falsifying records. Shooting round after round of ammunition without keeping score will land you behind the eight ball.

It works like this. Your gun has fired away most of its expected life and needs a check for erosion and bore damage—how're you to know? You haven't kept your gun book.

So you keep on shooting. Your shots go on a spree, roaming here, there, and everywhere they're not supposed to go. Maybe the whole thing will add up to just a waste of ammunition—which is serious enough in itself. On the other hand, by the time you get wise to what's going on, your eccentric shooting may have caused a few losses for the wrong side.

Then comes embarrassment number two.

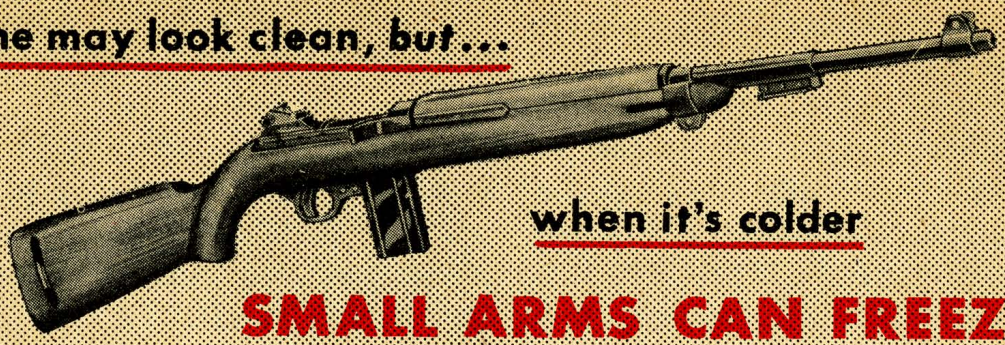
You send your gun to be overhauled, minus gun book. This makes the service crew very unhappy and they will hate you violently. They need the dope in your book as much as your doctor needs to know where pain is before he guesses what's wrong. They have to know what's wrong. They have to know what repairs have been made, the number and type of rounds fired each day, malfunctions, dates of inspection and other data, completed MWO's and accounts of seasonal lube and recoil-oil changes.

What's the result when you've loused up the entries in your gun book, or when your gun book is lost? Confusion—lost time and valuable data—and general bad feeling all around.

Another thing. Suppose you **have** made your entries. Your hieroglyphics may be perfectly clear to you—but how about the guys back in the shop who never learned decoding? Can they read it? Even after they scrape off the grime?

KEEP YOUR GUN BOOK— AND KEEP IT CLEAN.

She may look clean, *but...*



when it's colder

SMALL ARMS CAN FREEZE

With the thermometer registering 'way below zero this maintenance business can be a mighty stiff proposition. And rifles have been known to leave you cold when you're most in need of fire. Rumor has it that gun totin' units are anti-freezing with everything from lanolin hair tonic and coal oil to self-manufactured products.

Well, you can toss away those home-made brews, soldier. Recent tests on cold weather performance of small arms point to **frozen lubricants** as the cause of your jamming problems. When caught in this jam, rifles have been kicked, tossed, banged and hand operated... everything's been tried but hand-slung bullets. But no go. When it comes to continued cold weather usage, brother you're stuck. And the only real cure is what you learned in rookie days—KEEP IT CLEAN AND UNCLOGGED—like it says in FM 70-15.

There are two main points to this cold weather operation problem. The first is Cosmoline or Compound, Rust Preventive (Spec. 2-121). This stuff is like slow molasses inside your gun, and it's GOT TO GO... ALL OF IT. Only small consolation is that while you're freezing you can't rust. So when arms arrive packed in Cosmoline a COMPLETE DISASSEMBLY JOB is SOP, urgent, and downright necessary. Some on-the-ball joe may have already disassembled and cleaned your rifle, but make sure. You can sometimes spot the Cosmoline when field stripping, or it may come oozing out when you hit a warm spot. If you've even got an inkling you're still carrying the stuff, find the man in your outfit who knows his rifle works best, and get the JOB DONE. The best method for getting rid of this clog in your rifle is:

1. Remove Cosmoline by any reasonable method such as soap and water. (Wood parts are not boiled.)
2. Disassemble and wash each component in solvent.
3. Clean bore with solvent.
4. Wipe each part with a dry cloth.

The second point to consider in cold weather shootin' is your lubrication. Oil reacts to cold about like Cosmoline does, and an overdose in your rifle can **really** gum up the works. Guns CLEANED of Cosmoline need oil...but JUST A LITTLE. A new type pack, the Volatile Corrosion Inhibitor method (Jan-B-131), now being tested for small arms, brings your rifle to you already oiled, with special preservative lubricating oil (Jan-L-644 or Mil-L-644a). In milder climates these rifles are ready to go after a dry-cloth wipe-off. But when the temperature's way down low these VCI-packed rifles have to be THOROUGHLY CLEANED, and then RE-OILED... **lightly** with Jan-L-644 or Mil-L-644a.

Here's how to lightly oil your de-Cosmolined and de-oiled arms:

1. Always rub a thin film of oil on your hands to start with...like with shave lotion. Hand perspiration and finger prints leave destructive acid on bare metal. This acid will continue to cause damage to your rifle even after the metal is covered by oil or rust preventive.

2. If using a cleaning patch, wet it with oil and **wring thoroughly.**

3. Coat surfaces of all parts with a **thin film** of Jan-L-644 or Mil-L-644a, either with the cleaning-patch or by running lightly-oiled hands over parts.

Another thing that could happen below freezing is this matter of a frosty rifle. A cold rifle brought into a warm inclosure will sweat. If left there it may rust. A sweating rifle carried out into the cold again will freeze. Any way you look at it, that moisture gathering on your rifle's brow can cause plenty trouble. And a CLEANING-LIGHT-OILING job is in order.

So take another look at Old Betsy. She may look clean, but... is she ready for action below her thirty-eighth parallel?

81-MM MORTAR BASE-PLATES

From Korea (the rock-garden of the world) come tales of a new battle. This one's between the new circular, two-piece 81-mm mortar base-plate and that cold, cold ground. The real scoop is that you got hard metal (your mortar) pounding against hard metal (your base) pounding against solid granite. Something has got to give...and lately it's been the rotary base-plate that's been cracking, right up its middle.

Solutions? One unit tried going back to the old rectangular base plate. But they still buckle like usual. Some blame excessive charges during cold weather. Others say DIG 'EM IN. And if you can't dig, cushion 'em with sandbags, wood, logs, brush, anything. Better to take a few extra seconds before firing than to get cracked wide open in the middle.

WHICH 4.2 MORTAR AMMO

If the shoe fits, you wear it . . . but just because the ammunition fits, you fire it? Not on those 4.2-inch mortars ya' don't. You don't shoot till you're sure.

There are two kinds of 4.2's . . . the M2 and the M30. Soon there'll be only the M30, but for now you got troubles. Both of 'em will do a good day's work on the same type vittles—M2A1, M3A1, M328 and M329 shells. Even the M328 and M329 longs (meaning the cartridge container plus the cartridge container extension) will fit, aim, and fire in both the M2 and M30.

BUT—and this is for the guys who get a big bang out of a large charge—the eyes on that M2 are bigger than its stomach, and it'll stretch from an increment charge that's pure gravy to the M30. And maybe, no yoke son. The **M30** when it's firing M328 and M329 longs will take up to 41 increments, and be a real hot shot.

But no matter what cartridge you're firing in your **M2**, you NEVER, NO NEVER, NOT EVER use over **25½** increments. Ya' do and you'll be battling a bulge that'll flatten your M2 for sure.

M19 60-mm Mortar...Your Pin Up?

Signs of The Times Say You'll Have a Choice

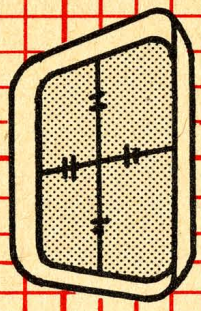
If that M19 60-mm Mortar you've been firing by trigger suddenly misbehaves and sends up a shell like it was set for drop fire—save face by hitting the dirt, but quick, whenever firing your M19.

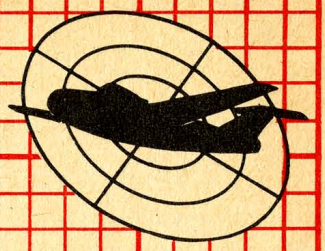
Keep your trigger happy and working the way you want it to, by giving it lots of spring freedom. What happens is that primer salts, carbon residue, unburned powder residue, and just plain dirt get into the firing mechanism on this job and prevent the pin from being drawn back into the bushing. And just like that, you've got a **fixed** pin.

Also, you could develop a sprung spring, which will hold the pin as tight as if you'd set the selector for drop fire. Tension of the firing spring can be tested when cleaning. You may need a new one.

The only way to keep this party under control is to KEEP IT CLEAN . . . at least once a day, and after every twenty rounds if possible. If not possible . . . EN GUARD with safety precautions. It's most mortar-fying to be caught unaware with your firing pin up.

FIRE CONTROL





LEATHER KEEPING

It's a rough ridin' hide but it's hankerin' to be cared fer. That's the way with leather carrying-cases you get to tote your instruments. Most of the stuff issued is russet or fair leather, and cleaning it means removing all hardened grease with a sliver of wood and then washing it with a sponge soaked with a heavy lather of saddle soap and clean warm water. After the wash, rinse with clean water and rub with a dry cloth until the leather is dry.

Bronco busters may want to scrape the grease off with a piece of glass or a knife but, no matter how careful, there's bound to be little cuts that may end up in big scars after a little handling. And should those hombres use a solution with a strong alkali instead of saddle soap, or let the case dry in the hot sun, they'll weaken the leather's natural toughness and make it brittle for sure. Saddle soap (51-S-1775 QM issue) is a soft paste soap 'specially made for cleaning and preserving leather, and can be sponged on with a coarse-pore, cellulose sponge, 41-S-4D37.

You'll find that washing leather a few times takes away most of its lubricating oil. In order to keep it from becoming harsh and brittle, rub a soft cloth moistened, but not saturated, with neat's-foot oil (14-O-307 QM issue) over the surface. Only a very light coat of oil now, and that **after** the leather is dry from the washing. Then end up by wiping off any excess oil and rub it to a polish. No spit!

If your carrying case was treated to a special coat of moisture-and moldproofing (which you won't know just by looking at it), have it retreated for that added protection... the washing you just gave it neutralizes the fungicide.

To get the items mentioned, quote TA10-100 as your authority. And for more dope on takin' care of leather cases, you might like to look at TM 9-850 and TM 9-575.

M33 BATTLE SHORTS

Battle Shorts on the M33 (TM9-679A) are swell gadgets but what's to control the guys who controls 'em?

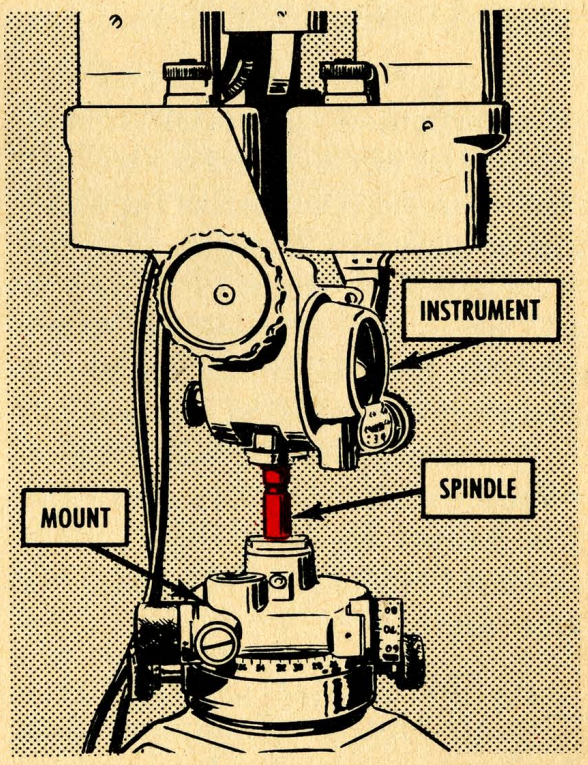
Those four delay-timers rigged to give the gas-tube rectifiers and the tracking and acquisition magnetrons a chance to warm up before the high voltages go blazing through the system—are mighty handy regulators. Using the Battle Shorts to take the equipment from "standby" to "operate" in short order, without thinking twice about the probable damage to those switches, may find you caught with your equipment down. Yet, there are fighting times when it pays to take a chance—that's why the controls were put there to begin with. But it's only when things get **real hot** that you'd want to remove the delay timers and risk a short cut.

Besides bypassing the timers, these switches will also sneak you by other preventives—which may serve a useful purpose. In battle emergencies for instance, by redirecting the electrical stream for quick action you can skirt any fouled-up time delays, interlocks, or safety door-switches holding up the works. But remember that interlocks are safety plugs made to protect humans against high voltages—pulling that switch means wide-open danger. Burning up over the fryer won't help, so go softly when moving the red button.

MOUNTING AN INSTRUMENT

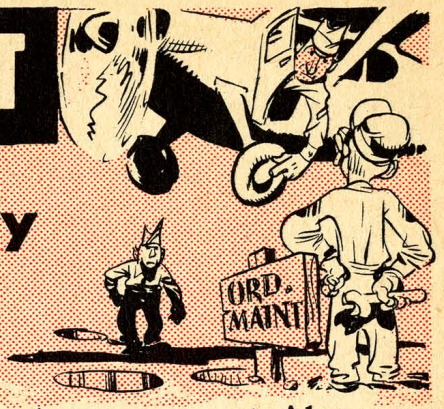
Sledge-hammering assemblies would be nix in any shop. And that goes for stacking an instrument on its mount as well as anything else.

Sometimes the connecting parts of this combine are roughened and marked with nicks and burrs. These blemishes usually come from the instrument or mount being banged or flung about and can send some Joe off the beam when he goes to use them. Especially if it's the kind that fits on a spindle and rotates.



ARMY AIRCRAFT

Maintenance and Supply Switches to Ordnance



As many of you know, the care and feeding of Army aircraft is now the responsibility of the Ordnance Corps. The changeover from Air-Force to Army is a gradual thing, that's been taking place ever since the National Security Act of 1947 established the Air Force as a separate service. Before that time, the Army Air Force was in charge of all aircraft including the few planes then used by the Field Forces. Using units of the Army did organizational maintenance only.

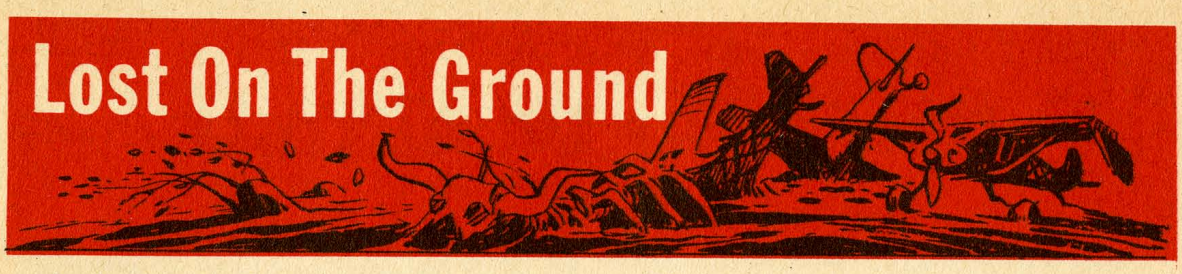
Taking over a complete new service, particularly a specialized and technical activity like aircraft maintenance, takes lots of time and lots of planning. The planning has been going on since 1947, and is still going on. In 1949 an Army Aircraft Section of the Ordnance Field Service Division was created. In January of '50 the field maintenance responsibility for aircraft and the related supplies began to be assumed officially by The Chief of Ordnance.

As the situation stands today, The Air Materiel Command, U. S. Air Force, is doing the development, testing and procurement. Also supply and overhaul from the depot level on up. Army has the field maintenance and supply, and the organizational maintenance and supply. (Roughly equal to 1st, 2nd, 3rd and 4th echelon responsibility.) Plans are going forward to switch depot supply and overhaul to Ordnance in the not too distant future.

Now, is there a thirty-year man in the house? To you, friend, for what it may be worth: there is a general shortage of Army Aircraft Mechanics, MOS 3008, and an acute shortage of Army Helicopter Mechanics, MOS 3995. Moreover, the aircraft program is just beginning, present plans call for lots more of 'em all through the service. See?

Your old friend PS Magazine is now included in this program too. Viz: Starting with this issue, you now have an Air Department, run by a gent called Sgt Windy, who will do on the wing what Half-Mast does with his feet on the ground. You can look for latest dope, field fixes, and suggestions from him, and moreover, he's anxious to hear your problems. So write soon, will yuh?

Lost On The Ground



A duck on the ground is about as homely and clumsy a thing as we have ever seen—reminds us of an airplane taxiing on rough ground. Aircraft in flight, even the little liaison types you see around you, are very pretty things. And they can take an awful beating—in flight. But an aircraft on the ground turns at once from a strong, graceful beauty to a crochety old lady who must be pampered.

But lots of people don't know this. They see the kind of batting around these ships take in the air and in rough field landings, sometimes after hours of being shot full of holes, and they begin to think of aircraft being as rugged and durable as the Jeeps and six-by-sixes.

This kind of thinking, unfortunately, costs a lot of lost time with these aircraft.

Someone slides a Jeep up just a couple of inches too close, and the tail assembly of a ship is loused up forever more. Or they walk under the wing with their weapon slung on their shoulder, and hear crisp ripping noises (fabric tearing on the wing, hair being torn out by the crew chief).

Or they step where it says "No Step" and all of a sudden they are ankle deep in airplane.

The ships just **are not** built to take misuse. To be light enough to fly, they gotta be made of light fabric or aluminum, not steel plate and canvas like a truck. So play like handling a crate of eggs whenever you are around an aircraft. Only treat the eggs rougher.

Every so often you will be unlucky enough to catch a guard tour around an aircraft park. In such case, any pilot or crew chief will be only too happy to tell you a few ground secrets about airplanes before he leaves for his sack.

The fair trade in the deal is that you don't explore it yourself later in the night. It is no end of fun to sit in a cockpit and play like Buck Rogers, but the chances are you'll not get all the gizmos and dooflickets back like they were before, which makes your fun not so funny when some guy has to take off—but fast—in some emergency. Not to mention your red face if you pull a lever to "Landing Gear Up" and Betsy kneels down like a tired elephant right under you. In some you'll fall right through if you sit down without a parachute on.

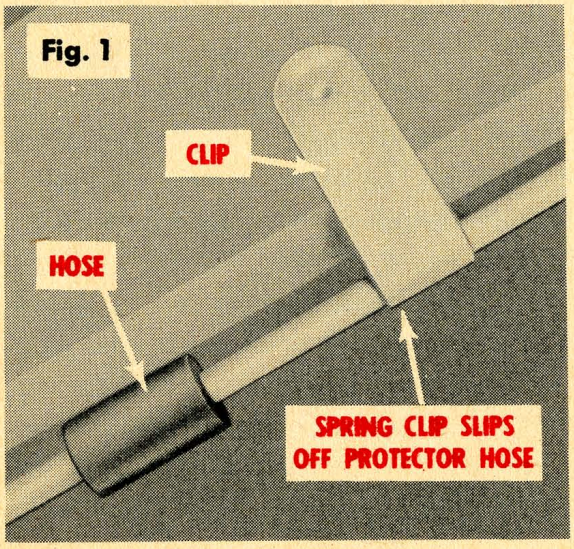
If you should be so unlucky as to hit or damage a plane, **tell the crew chief.** Flight crews stake their lives on their equipment.

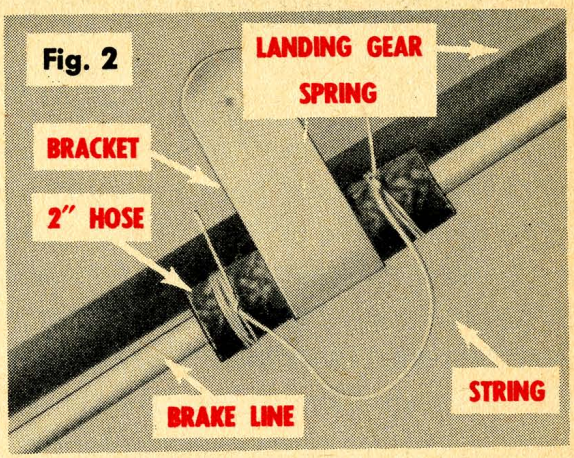
New News On Aircraft

The following items are straight from the presses, on the L-19's, and the L-17's... some do's and do-not's you won't skip if you're going to help them stay in the air by pleasing them on the ground.

BRAKE-LINE PROTECTOR

It seems that the little ½-inch section of protector hose that rides under the spring clip on the L-19A brake lines (AN 01-125LAA-2, page 72, Fig. 4-51, reference 12) has been slipping out of place (Fig. 1). Subsequent vibration of the brake line means P-twing-g-g. No clip. So aircraft after No. 51-4745 will have this hose made one inch long, and cemented to the line. You too, can have this same protection by slitting an inch of hose, cementing it in place on the line, and lashing with twine and shellac (Fig. 2).





GENERATOR, REGULATOR & LANDING-LIGHTS REPLACEMENT

On the L-19A's, TO 01-125LA-6 will be revised to increase the replacement period on generators from 500 to 800 hours. On reverse-current relays from 500 to 1000 hours, and to eliminate the fixed replacement period on landing lights altogether. On the advice of Air Mat Command, you are authorized to use the longer periods of time pending publication of the revised TO.

TIRE LIFE

Seems to be lots of tire wear on L-19A's. If you're bothered, turn to TO 01-125LAA-2 for the way to check your wheel alignment. And, of course, turning your wheels around at inspections (major inspections) will spread the wear.

However, you are **not** authorized to use 6-ply casings to combat excessive wear—since they have no

appreciably longer life, and they **do** increase the landing impact shock.

It is further suggested that if your honey persists in scuffing her shoes that you check carefully for looseness, wear, and distortion at the wheel and axle assemblies. And be sure to install the axle nut as per instructions in TO AN 01-125LAA-2, Sec. IV, Par. 4-206a.

WATCH THE WATER!

The L-17 users are reporting troubles with water in the fuel systems. Condensation from empty, or partly empty tanks being part of the cause.

To prevent this, fill your tanks after each flight and be extra careful to have the ship sitting level when draining the tank sump. What puts the snapper on this at this time of year is a little thing called freezing. A quantity of water you'd never notice in warm-weather operation can freeze up in the low spots of the system and stop your fuel flow. Hard steering in cold weather can be one symptom of this, excessive fuel pressure can be another. (Ice between the Adel pump and the fuel-pressure relief-valve.)

And remember, if you take her out of a warm hangar into cold air with water in the system, the ship **can** come home in a basket.

LUBRICATION

Recent tests on the L-17's point to AN-G-5A grease as the latest decision for all main and auxiliary landing-gear wheels. And this latest information is all yours.

WISE GROUND PILOTS:

1. **RESPECT SPINNING PROPELLERS** (Let's not be meatballs)

2. **KNOW THAT A HELICOPTER'S STING IS IN THE TAIL** (Like with a skunk, stay in front)

3. **RESPECT THE LAZY SWEEP OF A HELICOPTER ROTOR** (It kicks like Mountain Dew)

4. **DON'T LINGER IN THE PLANE OF A PROP** (It sometimes comes to bits, violently)

5. **KNOW WHEN THE PILOT IS "BLIND"** (If you can't see the man in the cockpit, he can't see you)

'WINDY' WINDSOCK'S

RIGGING SENSE

Dear Windy,

We have an L-19 which is persistently right-wing heavy. We have adjusted the wing root eccentrics to give maximum lift, and also bent the permanent aileron-trim-tab up as far as possible but she still flies wing heavy. Naturally we have checked our aileron droop and cable adjustments, also our weight and balance. Can you help us?

Lt L.O.R.

Dear Lt L.O.R.

Has it occurred to you that mebby your L-19 is left-wing light as well as right-wing heavy? I mean the left wing could be out of adjustment and giving excessive lift. If it's not, I am afraid you'll have to go back to AN 01-125-LAA-2, pages 5 and following, and check the whole machine out again to see if anything's gotten distorted. If any of the rigging dimensions are out beyond the limits of adjustment, you may have to send her to depot for correction.

Windy

SANDY TAKE-OFFS

Dear Windy,

What do you know about the availability of dual or caterpillar landing gears for the L-19? We had some of these ships on maneuvers in the sand hills, and had an awful time taxiing them, getting up flying speed on take off runs.

CWO E.D.B.

Dear CWO E.D.B.

There are no dual or Caterpillar landing gears available for the L-19's, but AAF Board No. 1 has been testing them and found them to work well in sand and mud. Until they get into general supply, all I can suggest for soft sand is to let some of the air out of the tires, and keep the tail low on take-off runs. Might also mention being easy on the run up and the RPM in general to avoid etching the prop, leading edge and windshield with blown sand.

Windy

MAINTENANCE KITS

Dear Windy,

I have a suggestion which I believe would be of great value in speeding up maintenance procedure, and untangling the wilderness of parts supply for Army Aircraft.

As you no doubt know, the periodic inspections of all our aircraft call for the arbitrary replacement of some parts; starters, landing-gear bolts, generators, and control-surface pins for example. They also require various gaskets, etc. to reassemble units torn down for inspection. In addition, some small

parts may or may not be needed, but their cost is so slight compared to the possible loss of aircraft time that they might as well be provided.

My suggestion is that such parts be assembled into kits, and issued as inspection kits, all in one package titled, say, "Kit, 500-600 hr inspection, L-19", or "Kit, 1000 hr inspection, LC-126C", which will first, provide all the necessary parts for a complete inspection without delay, and second, provide an easy and fast method of drawing such parts. In view of the possible field conditions which may crop up, where a mechanic may be called on to perform an inspection on a type of aircraft new to him and for which he has no Tech Order available, I suggest that an excerpt of the pertinent Tech Orders covering the inspection equalled by the kit be included in the kit.

MSgt L.M.G.

Dear MSgt L.M.G.,

As of now, all I have on this is the fact that your suggestion was sent to the men concerned with it, and they thought well enough of it to start an investigation of the possibilities. When I hear more about their decision, I'll let you know.

Windy

NEEDLE-BEARING LUBE

Dear Windy,

I have a suggestion to make: On the LC 126C's, the tail wheel oleo strut is fastened at the bottom by a collar containing needle bearings. It is possible to clean this assembly without disassembling the strut, but in order to relubricate it, the entire works must be taken to bits. I suggest that the installation of a zerk fitting in this collar would be most helpful.

MSgt M.T.E.

Dear MSgt M.T.E.

I can't go along with you on that grease fitting. I thought it was good myself, at first glance, but deeper digging turns up a couple different angles. In the first place, since you only get into this assembly (Fig. 1) at the five-six-hundred-hour inspection, they **want** you to take it apart and examine the race and needles for wear and galling. In the second place, pressure lubrication isn't good for needle bearings. So sorry, please. But come in again whenever you have an idea.

Windy

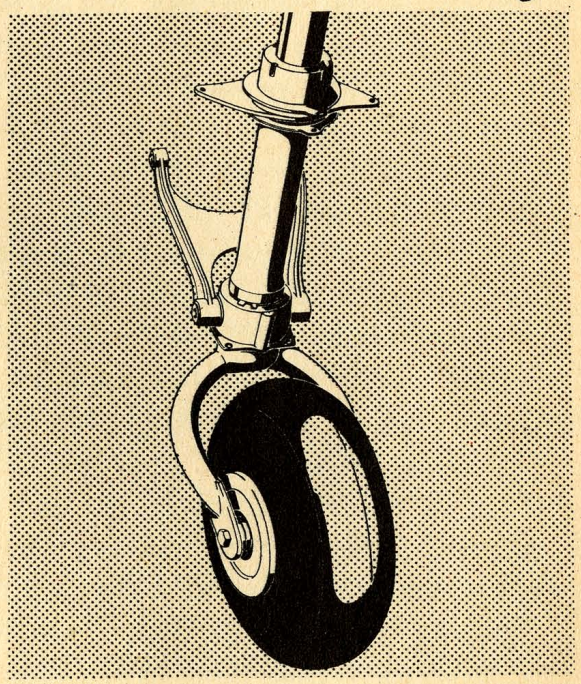


Fig 1.—Collar bearings must be checked for wear and galling, so dissassemble strut to clean and lube 'em. It's safer that way.

SUPPLY & DIRECTIVES

HOW TO BE A GOOD PARTS MAN

The new mechanic in the Army motor pool soon learns the Army has its very own system for manipulating spare parts... and what helps to learn the system, is the ability to find the right directives. Here's a small guided-tour that will help brighten your day in the big city.

Glance first at the T/O&E for your outfit and you'll find the quantity of each major item Deptar says you can have—also scan the SNL. This will give you your stock level.

Then with any luck at all, you'll find a current Ord 1 Index, which you can check to see if the SNL is still in use. SB 9-1 might help too, as it lists publications for each major item and combinations of items.

A separate SNL is issued for nearly every major item of equipment, parts are listed by groups like "Engine", "Chassis", etc. and the number of them allowed for use is shown. Some items you use more often should be stocked by your unit ...items not used so much can be ordered as needed from the stocks of Ordnance Field Maintenance. August 1951 PS explains how to use a Supply Catalog.

Then there's the locator and inventory control card (DA AGO Form 9-71). It should be properly filled in and kept that way. It'll show you which items you can use in place of those you don't have, manufacturer's numbers, new Ordnance numbers as they're changed—but most important, it'll be a history of your needs and often the basis for increasing your orders, when necessary, for better operation.

Here's a few tips for future reference: EXPENDABLE & MISCELLANEOUS ITEMS ALLOWANCES are listed in SNL's of the "H" and "K" series. SUPPLY AND TECHNICAL BULLETINS are listed in SR 310-20-4. PUBLICATIONS ON MAJOR ITEMS AND COMBINATIONS are in SB Ord 9-1. LUBRICANTS are listed in QM Supply Catalog 5-14 "Oils, Greases and All Lubricants." DA LUBRICATION ORDERS are listed in SR 310-20-4. BLANK FORMS are listed in SR 310-20-6. DA AGO Form #17 is used to order all publications (continuation sheet is DA AGO Form #17-1)...you'll need some requisition blanks and locator cards too. Other information can be found in 700-105, AR 750-5 and in the TM's issued for each item of equipment.

Take a specific example: The new truck, 2 ½-ton, 6x6, M34, Reo. Ord 1 lists Ord 7 SNL 0-742 as pertaining to this vehicle. If your combined T/O&E's for the Bn allows you 36 Reo trucks, the allowance

for your unit is listed in the 16-40 columns. In addition, each battery shop should have the parts authorized in the first column. A locator card (DA AGO Form 9-71) should be made for each listing, showing all the information given you in the SNL. When you get the parts, give them a space of their own in the storage cabinet and be sure to fill in the locator card, showing location, number received, etc. Keep these cards current all the time and the story is there for the looking.

If your head is swimming at this point, just see your Adjutant and get the right publications to start with, it's the secret to being a good parts man.

DIRECTIVES YOU'VE BEEN ASKING FOR

If you've been clamoring for directives on the ¼-ton 4x4 truck, M38, here's news for you: ORD 9 SNL G-740, MWO ORD G-740-W1, and Change 1 to TM 9-1804A have been distributed.

On your 1½-ton two-wheel cargo (M104) and water tank (M106) trailers, ORD 7 & 8 SNL G-754 is out, as well as TM9-875B.

There's an MWO on your 2½-ton 6x6 cargo truck, M34, MWO ORD G742-W1, and two new pages for the Technical Bulletins 9-819-3 and TB 9-819-5 on this vehicle.

And have you seen these directives on the new M135, 2½-ton 6x6 truck? TM 9-819A is the operating manual. TM 9-1819AB is hot off the press and gives the low-down on the Hydra-Matic transmission on this vehicle. The ink's still wet on the revision of ORD 7 and ORD 8 SNL G-749 and ORD 9 will be along very soon.

You've also been asking about directives on the M51, 5-ton 6x6 truck, so here they are—TM 9-837 and ORD 7 SNL G-744. TM 9-1837A on the engine and clutch will probably be in distribution by the time this reaches you.

WHERE, WHY AND HOW

SR 725-105-5 (19 December 51) has come along to replace the old one of the same number. It deals with sources of supply of Ordnance general-supplies and the system for their distribution to installations and activities of the Departments of the Army, Navy, Air Force, Civilian Components and other Government and International agencies. It gives you all the info on how and where to send your requisitions, and names the other directives to be used in the case of each type of installation or agency. It's a must for a supply man.

(continued from p. 270)

ers and lines in Southern Coaches, total capacity is 20 qts.

0149 Loose flap cables, and ailerons not streamlined with flaps, can cause wing heaviness in L-19 aircraft.

0152 Because the cap screws holding front brake-assembly and spindle to steering knuckle on M38's can work loose, they need frequent checks and tightening.

0155 Those fast-wearing elevating-knobs (M1 rifle, elevating-pinion assemblies) shouldn't be tossed away. Send the toothless knobs to Springfield Armory for reworking.

0157 If M38 brake pedals strike oil-pressure sending-unit, a shorter nipple to connect sending-unit to block will allow full application of brakes.

0159 A hasty job of screwing the firing-mechanism housing on 155-Howitzers can leave loose head-space, which leads to stuck firing mechanisms.

0160 Stick close to your M33's generator while she's operating—if she starts dyin' down, you'll be able to switch her off **before** the current slow-down burns up the transformers.

0161 Uneven pressures when you're tightening front and rear differential-covers on M38's can give them a permanent buckle.

0172 Semi-trailer tailgates aren't built to be lifted from sockets with high-lift-truck forks—too much pressure for them.

0173 A pair of brackets mounted on top of troop-seat backrest on M37's will make storage space for paulin-bows.

0177 Silicone oil-seals are destroyed by oil-and-grease-dissolving cleaners and abrasives, and should be cleaned with clean cloth and a dab of clean SAE #10.

0180 The odds are 1 in 1000 that mortar misfires are caused by faulty ammunition—if you're blaming the ammo, you're probably missing what's really wrong.

0179 A home-made guide will help brake-spring plyers work on new ¾-ton's bonded linings.

0181 The latest rumor (from two seats over) says steering-knuckle-boot Kits (G742-7410-883) are available thru channels.

0191 Unless they're oil saturated, your L-19 oil-filters are practically useless.

0192 M41-series 5-tonners got their air-brake cutoff-pressure upped from 100-105 psi to 115-120 psi.

0202 L-19 and L-17 carburetors look alike but are not interchangeable.

0201 You can keep exhaust fumes out of the M34 cargo area with a 12″ tailpipe extension.

0198 The M100-trailer cable-socket-cover will smash the M38 left reflector if the cover's not locked open when you hitch the trailer.

0208 To light the M104 trail-

er's right-hand blackout marker, some M135 2½-tons need a wiring modification.

0214 Autolite and Delco Remy 24-volt generators and regulators switch with each other, any which way, as units.

0218 On L-17B's, cracks in tack-welds on landing-gear casing-assemblies indicate failure of brazed joints.

0221 Some M51, 5-tonners got out with three cap-screws in face of clutch-pressure-plate housing—they're used in assembly only and need to be removed.

0190 Ground break-in will hurt instead of help new or rebuilt aircraft engines.

0130 Keeping small batteries in warm pockets saves them for those night-lighting devices—especially at −20° F.

0131 Keep your compass out of the watch repair section by locking the needle when you're not using the compass.

0132 Flywheel-housing drain-plugs can be stored close to the housing by welding a halved pipe-collar to the frame.

0136 Checking transmission and differential oil-levels in M4, M4A1, M4A1C, M4C High-Speed Tractors is less confusing with the right procedure.

0137 Brake adjustment on ¾-tons calls for exact adjustment since undersized linings allow only 0.025″ to 0.030″ heel and toe clearance.

0138 If you're setting up an M9 directed battery, you should know about a "quicky" for checking the slant-range.

0139 M9 tracker azimuth X and Y brushes can be checked and set exactly 90° to each other without a null-voltage test-set.

0140 Building the right kind of rig will ease your struggle and prevent rear-wheel oil-seal damage during wheel disassembly.

0142 It makes a difference to the life of the 155-Howitzer how you go about cooling its torrid tube.

0143 TO/E units can requisition hoses for vehicle washing by authority ORD 3 SNL J17 (March 47).

Please Bub

—only if you need it

You can have the full story on anything you've seen listed, the coupon is for your convenience. Clip it, fill in the blanks, and mail it to Editor, PS Magazine, Aberdeen Proving Ground, Maryland.

DEAR EDITOR,

I need info on the following subjects by the numbers— and I need it fast.

NUMBERS _____

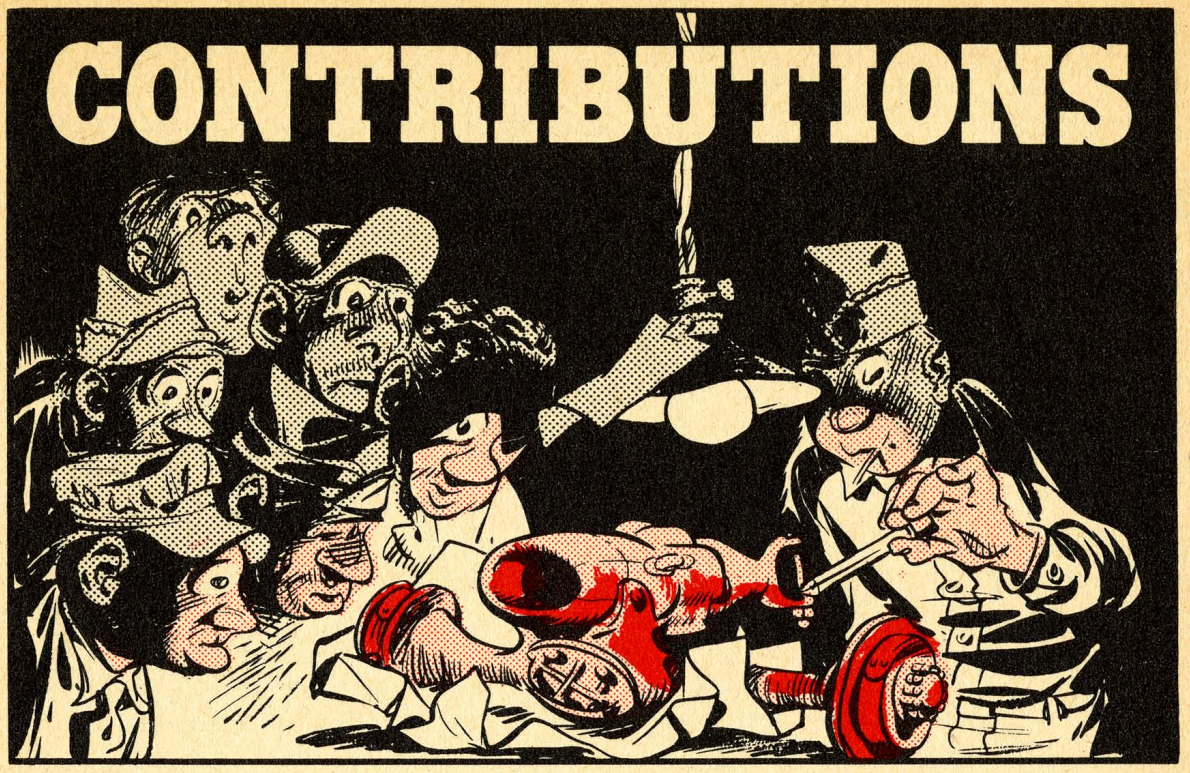
_____

NAME _____

ADDRESS _____

_____

CONTRIBUTIONS



C.V. JOINT GUARD-BOOT

Dear Editor,

There have been numerous complaints about the C.V. joint guard boot on the M34 being punctured. It may be that in some cases sharp sticks are puncturing the boots when the vehicle is driven forward in heavy brush and then reversed out. In that case it would be very simple to fabricate a guard in the rear of the axle, similar to the one in front. This would not interfere with the operation of the vehicle.

On the other hand, these punctures may be caused by the adjustable screw which holds in place the two security rings on the guard boot. By raising the front end of the truck on a jack, and turning the front wheels either to right or left, it can be seen how this boot is wedged in turning. If the inside ring adjustment is located at the bottom of the C.V. joint, the screw will puncture the boot. (Some of the security rings have been found with the inside adjustment in the lower position.)

Fix number one for this situation would be to place the adjusting screw in upper position.

Fix number two would be to remove one-half inch from outer end of screw. It will still be plenty long.

L. D. Price, OCT
Camp Edwards, Mass.

FORD DISTRIBUTOR-SPRING

Dear Editor,

We have quite a few ½-ton and 1½-ton Fords. I learned early that anytime you raise the rotor off the distributor shaft, watch for a small spring that fits on top of the shaft and sometimes comes out with the rotor. Sometimes it falls out when you lay the rotor down

or turn it upside-down to put back on. Anyway, when the rotor is put back without this spring, the first turn of the starter busts the rotor wide open. I busted five when I first started before the news got to me. I've passed the word along to the other guys in my shop so it oughtn't to happen around here again.

Cpl Wallace P. Bourgeois
Fort Knox, Kentucky

(Ed Note—You aren't just flapping your lip—that spring is worth watching. And for everybody who wants 100% distributor performance, PS says: be sure the rotor gets seated right when it's put back on the shaft and that the cap on the distributor housing is correctly set.)

PAINT ON INSTRUCTION-PLATES

Dear Editor,

As an assistant shop foreman, I am encountering lots of vehicles on which the operating-instruction plates are covered with paint.

This is bad. It conceals necessary information, and may result in severe damage to the vehicle by a perfectly careful driver not familiar with the particular machine. I wish the paint shops would be more careful about this.

Sgt A. M. Baker
578th Ord MAM Co

(Ed Note—A few minutes time, and a little masking tape is all it takes to protect plates from paint. In the absence of masking tape, a little grease rubbed over these plates before painting will permit wiping off paint, grease and all after the paint dries.)

JACK-STAND RIG

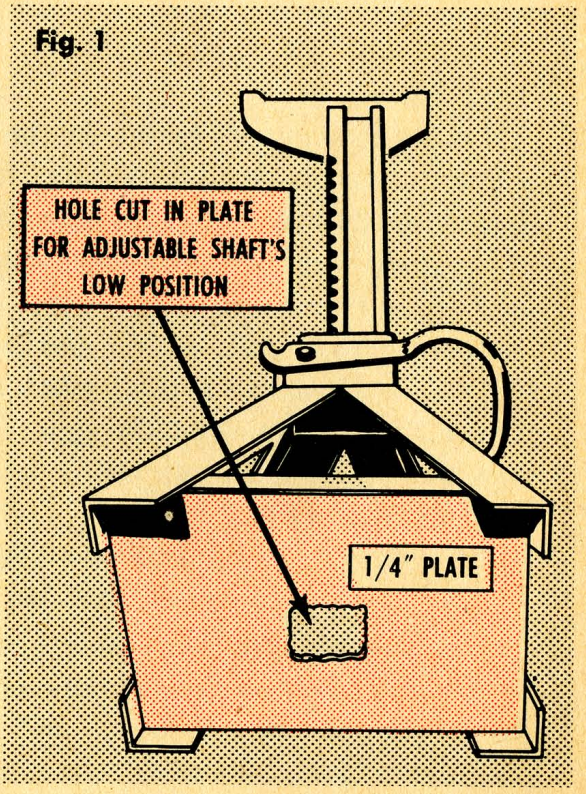
Dear Editor,

In my current organization much of our repair services are performed in the field. Blocking up and supporting vehicles on soft ground with the issued trestles has been a problem because their spindly legs sink out of sight into the soil. To prevent this I had flat pieces of ¼" boiler plate cut to size and welded between the legs of all our jack-stands (Fig. 1).

This increases their floatation on sand and dirt and doesn't impair their effectiveness when used in shops on concrete floors.

Capt E. J. Ruta
2nd Armored Cavalry

Fig. 1



REMOVE DRAIN PLUGS

Dear Editor,

In a recent check-up, it was found that some M34's still had their drain plugs installed. Result: a slipping clutch. Drain plugs, if left in, cause a vacuum—which in turn sucks oil from the transmission, causing the clutch to slip.

The cover plate was removed, the clutch facing was sprayed with carbon-tetrachloride and allowed to dry. This cleaned the facing. After thirty minutes, the clutch wasn't slipping any more.

Like PS Magazine said back in July, it's a good idea to remove the plugs, tag them, and place them in the compartment in the cab of each M34. Same thing holds for the M38.

Lewis D. Price, OCT
Camp Edwards, Mass.

THROTTLE COLLAR FIX

Dear Editor,

I'd like to suggest a fix for the throttle-control wire when the collar has been lost. Most men bend the wire, but this usually results in breakage, thereby putting the control out of order.

If you get a bolt ¼" by ½" (and nut to fit), use a hack saw to slot the bolt far enough to slip the wire through, you can then tighten the nut and lock the wire in place. (Fig. 2)

Sgt Louis A. Joseph
46th Ord LAM Co

(Ed Note—Neatly done in a vise, with a nut at the base while sawing to chase the threads, it's an o.k. fix . . . and it'll take care of lost choke-cable collars too.)

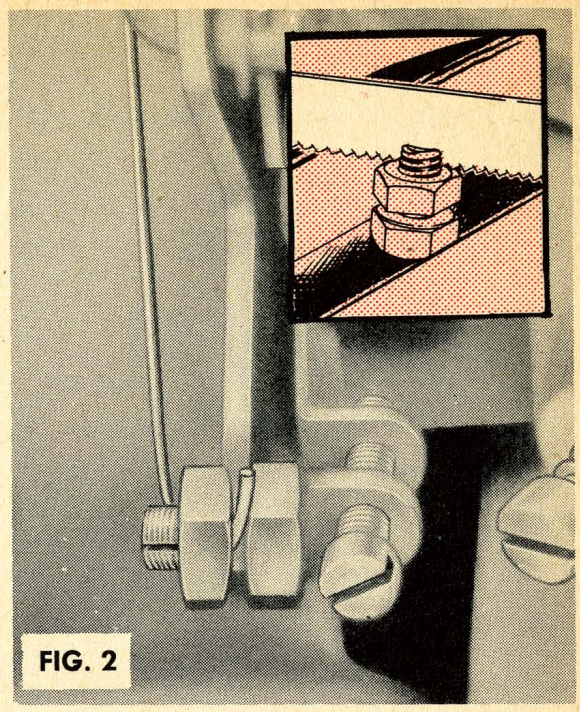


FIG. 2

PARTS FOR DEADLINES

Dear Editor,

In my outfit we needed some parts, but bad. We sent two men out to our supply unit but the answer they got was, "Sorry, we just don't have any of those." Our men came back empty handed. We had to have those parts so we sent two guys we knew wouldn't give up so easily and they took the requisitions to higher and higher echelons of supply until they found one that gave them what we needed. We learned that you can't stop at the first 'no' if you want to keep moving. You don't have to cannabalize either. Somewhere back through supply echelon you'll get what you need. There's a sign tacked on the wall of our shop now that reads, Seek And Ye Shall Find—and the motto works.

Cpl Mitchell G. Winslow
APG, Maryland

Connie Rodd's BRIEFS

Air-cleaners and breathers

The engine air-cleaner and breather wash-and-refill interval **on all combat vehicles** has been changed from 1000 miles to 250 miles. This change does not affect the specified intervals for cleaning under unusual conditions. Naturally, if you're operating in a dust bowl or getting needled with hot sand, those air-cleaners and breathers need a daily cleaning—sometimes more often. This new change in cleaning interval, every 250 miles, is for the normal.

Service-data plates

A real good sleuth poking around the new 24-volt vehicles (1/4-ton, 3/4-ton, 2-1/2-ton, and 5-ton trucks) would soon learn that information on the service-data plates doesn't agree with what's in the official lube-orders for these vehicles. The difference: some service-data plates specify GO 90 in the temperature range 40 to 10 F. This is wrong. The vehicle lube-orders say the correct gear oil for the temperature range 40 to 10 F. is GO 75.

Trust the lube-orders. When it's cold enough to drop the thermometer down around zero, GO 90 "channels". And when oil is thick enough to let gears channel paths through it—those gears aren't getting the lube they need.

Sometime in the future you'll get a TB on how to deface and change the incorrect markings. In the meantime, the vehicle LO's have the right info.

"Hey, the job's only half-done!"

Just like the little man in the bearing ads says, the job is only half done if you clean a spark plug on the abrasive cleaner and fail to blow the abrasive compound out of it before using it. We wouldn'a thought it would happen, but we hear from the field that some people are getting careless about this, with vurra unfortunate results. After all, no engine will appreciate a teaspoonful of abrasive in the combustion chamber, now will it?

STOP THAT MAN!

When you see this man on the prowl
bring him down with a low tackle.
But don't hurt him. Please!
It's only Sgt Half-Mast
hunting for information.
He wants to learn
your problems
so he can get
you the answers.
You may see him
almost any time . . .
any place there's
a maintenance job.
He may even be disguised
as a civilian
wearing a PS armband.
But Half-Mast is no legend who
can be everywhere at once.
So if you've got a problem or a
new fix . . . scribble it on
a match-cover and get it to him
by mail. Address:
MSgt Half-Mast McCanick,
PS Magazine
Aberdeen Proving Ground, Md.